The ‘Productive Community Services’ Programme: Implementing Change in a Community Healthcare Organisation

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1 Abstract

The *Productive Community Services* (*PCS*) is a change programme which aims to engage frontline healthcare staff in improving quality and productivity. *PCS* draws on tested improvement methodologies such as Lean, however there has been little research specifically carried out on *PCS* in practice. The aims of this study were to explore the perceptions of the healthcare staff that implemented the programme, to identify the enabling and constraining contexts of the programme's mechanisms of change, and to examine the meaningfulness and reliability of quantitative data generated during a *PCS* implementation. It also sought to explore the implications of these findings for managers, implementation teams, and commissioners in healthcare. To achieve this, an implementation of *PCS* was investigated using methods of participant observation, analysis of qualitative and quantitative data, semi-structured interviews and a focus group. A mixed methods approach was taken using the principles of Realist Evaluation. The results indicate that perspectives of the implementation varied widely, and that pay-for-performance targets contributed towards staff perceiving that the programme was irrelevant. Stock value was reduced by over £42,500, the time taken to find patient information was reduced by 62%, and services spent on average 36% of their time with patients. However, these figures lacked reliability and meaningfulness as the data were not validated or were produced using apparently flawed experimental designs. Contexts that constrained or enabled the mechanisms of change included staff attitudes, available resources, the effectiveness of communication, and whether technology could be used to resolve problems identified. The findings indicate that managers in healthcare should challenge implementation teams if the purpose of an innovation is unclear, that implementation teams need to be equipped with knowledge about technological solutions to efficiency in healthcare, and Commissioners need to ensure that pay-for-performance targets promote continuous quality improvement rather than temporary solutions.

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1 Chapter 1: Literature Review

1.1 Introduction

Over two years after the latest major reforms, the National Health Service (NHS) is still trying to generate the efficiency savings called for in the Department of Health's (DoH) white paper, 'Equity and Excellence: Liberating the NHS' (DoH, 2010a). Perhaps in anticipation of this need for savings, and as part of its brief to create practical initiatives to promote continuous improvement (NHS Institute for Innovation and Improvement (NHSI), 2013a), the NHSI (now disbanded, with its work taken over by NHS Improving Quality, Kendall-Raynor, 2013) created the *Productive Ward* (*PW*) programme. This initiative aimed to empower frontline NHS staff to improve their methods of working in order to increase the time spent with patients (or, 'Releasing Time to Care™,' the programme's secondary title), to improve quality, and to reduce waste (NHSI, 2010a). The NHSI went on to design further programmes within the *Productive Series,* addressing various healthcare settings such as the *Productive Mental Health Ward*, the *Productive Operating Theatre*, and more recently the *Productive General Practice*. Although there is some published research into the Productive Ward programme, there is little on the Productive Community Service (PCS) programme, which is the main focus of this study. Therefore, following an examination of the literature relating to Productive Series programmes, as the programme can also be defined as a Quality Improvement initiative, an Innovation, and a Change programme, the literature regarding these topics will also be briefly reviewed.

1.2 Literature Review Methodology

One electronic library database (Albert Sloman library, University of Essex) and five electronic databases (Cinahl, E-Journal, Medline, PsycArticles, and Google Scholar) were used to search for results including "Productive Community Services" anywhere in the text. This led to 36 records being identified. Six were rejected as they did not refer to the *PCS* programme, and one was rejected as it was a dissertation which was not retrievable online. Of the 29 records remaining, only four specifically reported on

implementations of *PCS*, with the remainder referring to *PCS* very briefly, for example, by listing it as one of the Productive Series programmes, or mentioning it in organisational minutes. Seven of the reports were authored by staff working at the NHSI who created the programme (see Table 1):

Description	Number
Total of records with "Productive Community Services" identified	36
No. of reports rejected (not about PCS or is an unavailable dissertation)	7
No. of Anecdotal reports*	3
No. of Experiential report*	1
No. of Research reports*	1
No. of Organisational reports /agendas /minutes /newsletters	5
No. of Editors' introduction letters referring to another report on PCS	1
No. of reports that announce PCS is coming soon	3
No. of reports that list PCS as one of the Productive Series programmes	2
No. of reports where PCS is referenced in list of recommendations	2
No. of studies about another topic but mention PCS	11
No. of reports above authored by NHSI staff	7

Table 1: Summary of literature search on "Productive Community Services"
*Categorisation of research identified by Wright and McSherry (2013), definitions are provided on page 13
NB. See Appendix W for references.

The 'Anecdotal', 'Experiential' and 'Research' reports are included in the literature review below, but as the majority of the search results were not peer-reviewed research, the search was widened so that key terms relating to the *Productive Series*, Quality Improvement, Innovation and Change were used. Search results that were perceived to be relevant and were located within the scope of the research timeframe were reviewed. Due to the paucity of published literature available, ad hoc papers and unpublished research requested from NHSI and available on their website were also examined.

1.3 The Productive Series

The basic concept of productivity is the calculation of a ratio between outputs (produced goods or services) to inputs (resources required for production), yet its measurement, particularly within healthcare, has long posed a challenge (Jones et al., 2012). Charnes et al. (1978) put forward the CCR model (which relates to the initials of the authors' surnames), which has diverged into two perspectives; input-oriented, where focus is drawn to decreasing inputs to increase the productivity ratio, and output-oriented, where the main focus is on increasing outputs (Mirmirani et al., 2011). The *Productive Series* programmes are informed by both of these input- and output-oriented perspectives. Their basic concept is

to eradicate wasted resources at the input stage, in order for staff to be able to spend more time with patients at the output stage; hence the programmes' tagline, 'Releasing Time to Care™'. This time spent directly with patients is often referred to in the literature as 'Patient-facing time' (York Health Economics Consortium (YHEC) and NHSI, 2010) or 'Direct care time' (Wright and McSherry, 2013). One of the other principles of the *Productive Series* is to increase the capability of healthcare organisations so that staff are confident and equipped sufficiently to make improvements in their day-to-day work (Bevan, 2010). Van den Broek et al. (2014) propose that the programme 'hybridizes' two different institutional logics ("the belief systems and associated practices that predominate in an organizational field," Scott et al., 2000, cited in Van den Broek et al., 2014). Firstly they possess a 'professional' logic which might be employed by clinicians that focus on quality of care, and secondly a 'business-like' logic that might be employed by senior leaders which focus more on efficiency. They warn that care needs to be taken when implementing innovations such as *Productive Series* programmes that try to appeal to multiple logics, as potential adopters may be suspicious of the multiple messages being conveyed, which may affect their commitment to the programme (Van den Broek et al., 2014).

There is little published research into the *Productive Series* programmes, possibly due to the programmes' relative infancy. For example, although White et al. (2013) identified a large volume of reports and grey literature relating to the *Productive Ward (PW)*, Wright and McSherry's (2013) systematic literature review on material published between 2005 to 2011 found only 18 articles that passed their method of quality and relevancy assessment, with only five of these being classed as empirical research. Their review found a bias towards the publication of positive results, and a possible issue of sustainability, indicated by an increase in *PW*-related publications towards 2009 followed by a decline. They propose that this increase was associated with the 'Productive euphoria', which occurred because the *Productive Series* was perceived to potentially solve the issues regarding insufficient care that healthcare organisations were associated with at that time. A bibliometric profile of *PW* literature published between 2006-2013 found a similar rise and decline of evaluations and grey literature, although the number of peer-reviewed articles remained low but steady, suggesting that internationally, "...the initiative continues

to generate publications and create interest," (White et al., 2014b, p. 2414). Wright and McSherry (2013) classified the literature they assessed into four categories; Anecdotal (articles that summarise the programme and outcomes in a journalistic manner); Procedural (addressing the programme's technical features, e.g. Lean methodology); Experiential (describing implementation, outcomes and experience); and Research/Evaluation (empirical studies or evaluations). As there still appears to be little peer-reviewed research relating to the *Productive Series* programmes available, this review will also include literature in all of these categories, beginning with Anecdotal articles.

Much of the Anecdotal literature referring to *The Productive Series* in nursing journals promotes the initiative explicitly or implicitly. Explicit promotion of *The Productive Series* is found in articles that overtly recommend the programme, for example with headlines such as, "Wards urged to adopt successful productive ward scheme quickly," (Kendall-Raynor, 2010, p. 8) and, "Productive Wards hailed for transforming care," (Lipley, 2009, p. 4). Implicit promotion through success stories are illustrated in articles highlighting positive results (for example see Anon, 2009a, 2009b; Dean, 2009; Snow and Harrison, 2009), and articles about forthcoming programme launches or various aspects of the programmes are written by members of the NHSI (see Callard, 2008; Manning, 2011b). Implicit promotion of *The Productive Series* is also provided by commentaries of experienced clinicians or leaders in healthcare, who, in debating contemporary best practice and professional issues, cite *Productive Series* programmes (for example see Harrison, 2009a; 2009b, 2010; Law, 2009).

Other anecdotal articles regarding teams' progress in implementing *The Productive Series* work include an article by Harrison (2008), which demonstrates how the use of *PW* tools helped staff to identify failures (for example, scoring 0% on an observation audit) and provides examples of the actions they put in place to improve this. Similarly, Laurent (2013) refers to success in Scotland's health boards and wards such as making financial savings on stock ranging from £700 to £3,700, and reducing a 172-step process to five steps. The implementation of the *Productive Ward* programme has also been associated with the reduction of staff sickness (Smith and Rudd, 2010) and hospital-acquired infections (Foster et al., 2009;

Smith and Rudd, 2010), reduced interruptions (Armitage and Higham, 2011; Blakemore, 2009a), increased patient satisfaction and quality of patient observations (Lipley, 2009), and increased Direct Care Time with patients and staff satisfaction (Dean, 2014). The implementation of *PCS* in one neighbourhood care team saved over 90 minutes each day by transferring a paper-based process to a central electronic clinical system (Lomas, 2012), and interruptions reduced by 52% in NHS Bolton (Manning, 2009). Other brief articles communicate the lessons to be learned from implementing *the Productive Series* programmes. For example, Cook (2009) emphasises the importance of superior and peer support of staff in implementing the programme, and acknowledges the difficulties that staff encounter when they try to improve and innovate services while colleagues are negative towards it.

Experiential articles offer a more detailed description of the programme (Wright and McSherry, 2013). Wilson (2009) describes her experience of the implementation of the *PW* programme, outlining some of its benefits and also offering advice for potential implementers of the programme. She reports that great benefits were achieved, such as a reduction in patient falls and medicine errors, and 'happier' staff and patients, but advises that one of the factors vital to the programme's success is support from the Board of Directors/Trust Board that can be seen clearly by staff members. Other articles are also used to describe how *PW* was piloted with the support of the NHSI across a large hospital trust, and offer advice to those who might implement the programme in future (see Allsopp et al., 2009; Bloodworth, 2009). This advice includes putting in place strategies for communicating information, such as use of the intranet or a shared physical area, giving good notice to ward managers so that they can plan rotas around releasing staff to carry out *PW* work, and for management teams to decide on how they will help to resolve issues that are beyond the control of the ward (Allsopp et al., 2009).

More recently, an implementation of *PW* on a mental health ward led to patients and carers having an improved experience of the Ward Round, more efficient admission and discharge processes, and improved communication between teams which led to more timely discharge (Lennard, 2014), although no quantitative data (e.g. regarding Length of Stay) is presented to demonstrate these benefits. Booth and

Hall (2014) report on an implementation of The Productive Operating Theatre, where Information Technology systems were improved so that the distribution of paper-copy theatre lists was no longer required, and the time taken to locate stock items was reduced by 3 minutes per staff member by rearranging the stock area. They also describe some of the difficulties they encountered with communication and staff engagement, for example where there was good attendance for the initial launch, but poor attendance at follow-up workshops. Wright et al. (2012) also contributes an Experiential article, describing how a school nursing team reduced the time taken to carry out various administrative processes and increased staff satisfaction through improving their environment during the WOWE module. They also note some of the potentially negative aspects, noting that the bi-monthly meetings that took place to discuss just the first *PCS* module (WOWE) cost approximately £236 per meeting in staff time, which excluded any data preparation required for the meeting and the time taken to carry out the actual *PCS* work. This is one of the few 'Experiential' articles which provides detail regarding the negative aspects of the programme implementation.

Writing just over a year after the introduction of *PW*, Blakemore (2009a) provides an overview of the progress made in different parts of the country, noting that at the point of publication, 80% of trusts in England had committed to implementing the programme, and wards were being reported as being more pleasant to work in as a result. The short case studies she presents report an increase in direct care with patients from 45% to 87% (from *PW*), an average increase of direct care rising by more than 20% (from the *Productive Mental Health Care Ward*), and ward handovers becoming, "...slicker and quicker..." (in the *Productive Community Hospital*) (Blakemore, 2009a, p. 18). Blakemore (2009b) also describes the implementation and outcomes of the *Productive Mental Health Ward* in more detail, reporting a 15% reduction of patient handover time, and an increase in staff morale, concluding the report by emphasising how the programme promoted the empowerment of nurses through this bottom-up initiative.

1.3.1 Research and Evaluation Studies of the Productive Series Programmes

The *Productive Series* programmes have been distributed to at least 14 countries (NHS Scotland, 2013) including New Zealand (see Moore et al., 2013) and Canada (Hamilton et al., 2014; Kinsman et al., 2014). For example, an evaluation on *PW* in eight Scottish NHS boards reported many benefits including increased direct care (increases ranging from 13-43%) in four boards, reduced unplanned staff absence in one board (from 6.27% to 2.97%), and increased efficiency, for example through the reduction of steps required to carry out processes (NHS Scotland, 2008). In a national implementation of the *PW* programme in Ireland, White et al. (2014a) investigated the impact of *PW* on staff engagement. Using the Utrecht Work Engagement Survey (Schaufeli et al, 2002, cited in White et al., 2014a), they found that staff engagement was moderately but statistically significantly higher in staff implementing *PW* compared with a control group. In another implementation carried out in a Belgian hospital, Van Bogaert et al. (2014) examined the impact of *PW* on burnout, nurse-reported quality of care and job outcomes, and nurse perceived practice environment ("...nurse-physician relations, nurse management at the unit level, and hospital management-organizational support", Van Bogaert et al., 2014, p. 453). In this longitudinal study carried out over three periods in 2006, 2011 and 2013, they analysed responses from nurses and midwives in a 'passive' *PW* group (who were informed about *PW* but were not implementing it until after 2013), and those from an 'active' *PW* group (who implemented *PW* methodologies from 2011-2013). Their results suggest that most of the variables improved in both the passive and active groups, with the 'personal accomplishment' construct of the burnout measure significantly decreasing for those in the passive *PW* group, which they submitted needed further investigation. An organisational transformation process was being implemented between 2006 to 2011, which may explain the positive outcomes for both the active and passive *PW* groups, and as the design is experimental (i.e. assuming linear cause and effect relationships when there is no way to isolate the *PW* from other factors), the results make it difficult to conclude that the *PW* programme had a positive impact on the variables being measured.

The majority of research papers located in this review focus on the *Productive Series* programmes being implemented in England. For example, Robert et al. (2011) investigated the level of adoption of the

programme across England in order to identify the factors that played a part in adoption. They found that between May 2008 and March 2009, approximately 85% of acute hospitals in the NHS had downloaded *PW* files from the NHSI website or procured a support package from the NHSI, which were the measures of adoption used in the study. Analysis of survey results and interview data identified five factors that were seen to aid the programme implementation; staff members perceiving that change was required and seeing *PW* as providing a solution; utilisation of the NHSI and their *PW* resources; using ward staff that initially showed interest in implementing the programme; emphasis on bottom-up leadership; and the provision of sufficient support (Robert et al., 2011).

NHS East of England (2010) also submitted research into *PW* in order to inform its implementation, to investigate long term sustainability, and to evaluate the impact of the programme on patient and staff experience. Phase 1 of the data collection entailed a documentary review of Trust proposals for funding to implement *PW*, and semi-structured interviews with key stakeholders to gather perspectives regarding adopting the initiative, its implementation and its sustainability. Phase 2 of the data collection involved case studies of three Trusts, and semi-structured interviews with various staff involved in *PW*, from frontline staff to executives. A model based on the 'Diffusion of Innovation' (Greenhalgh et al., 2005; Rogers, 2003) was used to analyse the data. NHS East of England (2010) found that *PW* had made a great impact, but this was difficult to quantify as the programme's measurable outcomes had not been defined. The support of the Strategic Health Authority (SHA) and Trust boards, and the need for the whole organisation's engagement and communication 'from ward to the board,' (NHS East of England, 2010, p. 19) were seen among others as vital factors in maximising the impact and sustainability of the programme.

Other research put forward by National Nursing Research Unit and NHS Institute for Innovation and Improvement (2010b) aimed to ascertain the learning and impact of *PW*, and to propose how the programme could be spread and sustained. Again the 'Diffusion of Innovation' framework (Greenhalgh et al., 2005) was used to frame analysis. The first phase of the research consisted of interviews with regional

and national stakeholders and a web-based survey to look at people's perceptions of *PW*, based directly on the 'Diffusion of Innovation' model. The second phase used five case studies to focus on the issues surrounding implementing *PW* locally, aiming to gather detailed information about the experiences and observed impact of NHS staff carrying out the programme. Available data (for example clinical measures) from the case study sites were also assessed. National Nursing Research Unit and NHS Institute for Innovation and Improvement (2010b) concluded that *PW* had been quickly taken up and implemented as it has a connection with staff's values and goals, it is valuable for improvement at ward level, and it is possible to execute, with sufficient support. It also asserted that the programme can bridge from the 'board to the ward' (as similarly concluded by NHS East of England, 2010). National Nursing Research Unit and NHS Institute for Innovation and Improvement (2010b) noted that there was substantial potential for the continuing spread and impact of the *PW* in the NHS, however, in order for improvements to be monitored across whole organisations, any measures needed to be consistent. They also stress the role of management, submitting,

> *"...the single most important factor for the success of The Productive Ward is that clinicians need to be supported and encouraged by the senior leaders in their organisations,"*
> (National Nursing Research Unit and NHS Institute for Innovation and Improvement, 2010b, p. 6)

The need for consistent measures within and across organisations replicated the findings in NHS East of England's (2010) research. National Nursing Research Unit and NHS Institute for Innovation and Improvement (2010b) also concluded that NHS staff were self-motivated to make improvements and engage in service development, however this view may have been produced based on a biased sample of participants who were supportive of *PW*. Those not self-motivated towards change and improvement would perhaps not have been engaged in *PW* and would not be likely to participate in a web-based survey concerning it.

Other research into the sustainability of the interventions carried out during an implementation of *PW* used a sustainability scoring tool provided by the NHSI as part of the *PW* programme material. Carrying out sustainability evaluations on 11 wards at weeks 8, 20, 28, 36 and 44, Clarke and Marks-Maran (2014) found that at week 44, two wards had scored less than 50% (triggering a red status), four scored 51-79%

(triggering an amber status), two scored 80% or over (triggering a green status). One ward had to drop out after week 36. Their findings led to recommendations including that sustainability should be thought of as part of the implementation plan, that those implementing change need to understand the factors that affect sustainability, such as staff engagement, and that staff should be involved in the launches of similar programmes as this appeared to be a factor associated with higher sustainability scores.

The NHSI, who designed *PW*, commissioned National Nursing Research Unit and NHS Institute for Innovation and Improvement (2010a) to carry out further research into how the spread of *PW* (and other initiatives) could best be facilitated. Phase 1 had three components; review of theory on the spread of innovations in health care; application of this theory to existing knowledge of *PW*; and the identification of beneficial areas for future research to inform Phase 2. Using case studies, the aim of Phase 2 was to consider the three phenomena identified by Phase 1 as potentially having the most impact on the spread of *PW*. These were, 'Discontinuation' (where an innovation is rejected after it is adopted), 'Islands of Improvement' (where 'Pockets of excellence' remain isolated and unknown to others) and 'Improvement evaporation' (where change is not sustained). Interviews were carried out and topics included personal involvement, energy levels, engagement of staff groups and factors which helped or hindered the programme. National Nursing Research Unit and NHS Institute for Innovation and Improvement (2010a) found that those engaged with *PW* recognised the potential for 'spreading' the innovation in their organisations, but it was important that leaders were engaged when preparing the programme and planning how it could be spread, and also that knowledge in the use of *PW* tools was shared at ward-level. Analysis of four *PW* evaluation studies highlighted characteristics that helped the spread of *PW*, which included having available external resources and the support of an external change agency (National Nursing Research Unit and NHS Institute for Innovation and Improvement, 2010a). Characteristics appearing to hinder the spread included a lack of national mandate for the programme to be implemented, and organisations having insufficient capacity for putting the programme into practice. There were also individual determinants of spread which included staff receptivity to change, and also the ward managers' willingness to focus on time management so that staff could participate in the work, rather than the

managers doing it for them. Based on the findings, National Nursing Research Unit and NHS Institute for Innovation and Improvement (2010a) also suggested that clearly communicating management support would be likely to be more difficult in multi-site organisations than in single-site organisations. The report acknowledges that there is a bias present in the participant sample as they are all staff with a specific role or interest in the implementation of *PW*.

Other research by NHSI (2011c) was put forward in order to explore the productivity and efficiency improvements *PW* could make for the NHS. In-depth case study interviews were carried out in nine acute Trusts, and other Trust data was also analysed to look for evidence of impact. Significant savings in efficiency and productivity were found by the implementation of *PW*, and they calculated that for every £1 spent on this implementation, £1.90-£15.50 would be returned (£8.07 on average). Their conclusions challenged organisations to address key questions regarding the re-investment of direct care time gained by the programme, the opportunities to reduce staff sickness and patient length of stay, and the best ways to link efficiency with quality care. However, where changes were attributed to the *PW* programme, these views were from managers involved in the implementation of the programme and might not have reflected the views of the Trust board, which again introduced the possibility of participant bias (NHSI, 2011c).

Addressing one of the recommendations proposed by NHSI (2011c), YHEC and NHSI (2010) carried out research to inform key stakeholders, such as providers and commissioners, of the best ways of redistributing the extra resources generated by *PCS*. Estimates were based on evidence that *PCS* could help services increase their direct patient care time by 27.5%. YHEC and NHSI's (2010) modelling indicated that the extra time redistributed could, over the course of a year, increase the number of visits by 305, or could increase the length of each patient visit on average from 28 minutes to 35.7 minutes. Alternatively, the extra time would allow community health organisations to deal with the increasing workload resulting from chronic disease and still have scope for other service developments; or reduce the workforce by up to 21.6%, saving up to £471m per annum. The time could also be redistributed to

non-hospital based services that could prevent up to 210,000 hospital admissions per annum and free up £260m for further developments (YHEC and NHSI, 2010). However, their report states that the modelling was carried out when the pilot sites' data had not been analysed in full as there was limited evidence of the *PCS* programme's impact. They also note that since *PCS* was introduced, patient facing time increased by 30-38.25%, and base their modelling on a 27.5% increase in patient facing time, although all of these figures are not well referenced so it is unclear what data these are based on. The authors also acknowledge that they had to base their modelling on a number of assumptions because of insufficient or incomplete data, so to what extent these assumptions affected the data is unknown. In addition, reducing staffing will increase productivity because it will reduce the inputs in the productivity ratio, however this does not seem to align with the programme's aim to release time to care, as the amount of direct contact time with patients would not increase by using this option. Organisations acting upon the guidance of (2010) should be mindful of Appleby et al. (2010) who warns that when NHS organisations look for ways to improve productivity, they need to select strategies which, "...produce **more value** from the same or similar resource, **not** the same for less," (Appleby et al., 2010, p. 2, emphasis in the original).

The issue of increasing direct patient care time is also examined by Wright and McSherry (2014), who note that considering the significant increases in direct patient care reported in *PW* articles, few specifically describe exactly how this time was reinvested. To explore this further, they carried out qualitative research which included examination of how the time reduced by *PW* was reallocated to patient care. Using semi-structured interviews and focus groups, they used thematic analysis which identified a main theme of change management, and four subthemes; "...personal/emotional experience, leadership, organisation and competing priorities," (Wright and McSherry, 2014, pp. 4-5). They also found that although initially the time saved was able to be allocated to patient care, generally participants found it difficult to give examples of how the saved time had been reallocated to patients, or what *PW* had specifically enabled them to do that they could not do before.

Some research does demonstrate how time was reallocated to patients, for instance in NHS Scotland (2013). Their report details how NHS Western Isles Community Nursing Teams saved 34 days a year and were able to reinvest these hours into implementing a fortnightly cardiac rehabilitation programme. Their report was also one of the few which detailed how the *Productive Series* programmes would be sustained beyond the national rollout of the programmes. NHS Scotland (2013) also notes the difficulty of measuring the *Productive Series* programmes' impact due to the inconsistent quantitative measures used across different organisations, and so incorporated both quantitative and qualitative data to create 'module stories' to help indicate the programmes' impact. Other qualitative research by Davis and Adams (2012) was carried out using semi-structured interviews with six staff members in order to investigate their perceptions about *PW*. Using thematic analysis, they identified five main themes; "Starting to implement the programme, Anxiety and defensiveness, The Importance of leadership and communication, Challenges, and Learning and personal development," (Davis and Adams, 2012, p. 354). Although their study captured some of the negative issues that were encountered during implementation, again the responses were wholly positive, although only a small sample of staff were interviewed, and the participants were leading or heavily involved with the programme.

The impact of *PW* has also been explored by systematically examining the content of published *PW* literature. White and Waldron (2014) reviewed literature published between 2006-2013 (also reviewed in White et al., 2014b op cit.). Using qualitative content analysis and focusing on nurses' perspective of the programme, they found that the top three most common impacts and effects reported in the literature were 'Empowerment', 'Leadership' and 'Engagement'. However by focusing on just the top three impacts identified, the fourth, which was 'Stress and Resistance' which received only one citation less than 'Engagement', is bypassed, lending support to the positive publication bias identified by Wright and McSherry (2013) op cit.

White and Waldron's (2014) review, as with many of the research articles reviewed, highlighted the outcomes of the *Productive Series* programmes, however a recent literature review examined *PW* with a

specific focus on the implementation process. White et al. (2013) identified seven key characteristics that were seen as having a direct impact on implementations of *PW*. The first was that robust and engaging communication was needed. Secondly, it was important that the ward leaders and facilitators enabled and empowered frontline staff to make the changes, and thirdly, appropriate training at all staff levels was required. Project planning and management of the rollout process was important, including the order in which teams should implement the programme, and the fifth characteristic, Leadership, showed the need for clear leadership, and also that the programme provided opportunity for staff to enhance their leadership skills. Corporate/management engagement and support was salient, and this included the giving of 'permission' to staff to be critical and make changes to existing processes. Finally, 'Financial and human resource commitment' was identified as a main theme, and the literature indicated that this commitment needed to be long term in order to sustain the initiative (White et al., 2013). They note that these characteristics of effective implementations are already documented in the implementation and change literature, which suggests that this knowledge has often not been transferred to the implementations of *PW* that have taken place. This is reinforced by research by Bradley and Griffin (2015), who carried out a thematic analysis of interviews with 45 staff members which identified several aspects that may have constrained the potential benefits of the programme. These included a lack of communication, a lack of understanding of the programme, and a perceived lack of relevance of the programme. Their findings indicated that knowledge from the implementation and change literature was not being transferred to *Productive Series* implementations, and this lack of knowledge transfer is a problem in addition to the difficulties of implementing and embedding change in complex adaptive systems (Begun et al., 2003) such as healthcare organisations.

1.4 The Productive Series as a Quality Improvement Initiative

This section will briefly review literature relating to Quality Improvement (QI), as the *Productive Series* programmes incorporate various concepts of QI initiatives, in particular 'Lean' principles. Many QI methods adopted by the NHS were initially devised in other industries (Pollitt, 1996). For example, the *Productive Series* has a strong emphasis on the use of audits, which is also given prominence in the

'British Standard 5750 ISO 9000' (see Jackson and Ashton, 1995; Sadgrove, 1994), which originated in the defence sector (Pollitt, 1996). This initiative emphasises the control of procedures by use of audits to uphold quality standards, and organisations using the system effectively can achieve BS5750 accreditation (Wedlake, 1992). Although this initiative has been described as having the potential to help organisations manage quality (Chung, 1993), this method has provoked criticism, which includes failure to nurture customer-supplier relations, and relying too heavily on subjective interpretations of quality (Seddon, 1997). As audits feature heavily in the *Productive Series* programmes, these criticisms might similarly cause issues for the programmes' users.

Other QI initiatives that have been used in healthcare over the last few decades include Quality Circles (see Donabedian, 2003), Total Quality Management (TQM) or Continuous Quality Improvement (CQI) (see Berwick et al., 1992), the Plan-Do-Study-Act (PDSA) cycle (see Cleghorn and Headrick, 1996; Ragsdale and Mueller, 2005), Benchmarking (see Haines and Warren, 2011), and Business Process Re-engineering (see Devaraj and Kohli, 2000). More recently, the healthcare literature reflects an increase in the use of 'Lean' principles (also known as the Toyota Production System, or TPS, Black and Miller, 2008), which has had a strong influence on the *Productive Series* programmes (Manning, 2011a). 'Lean' is based on the methods of production established in Japan by Kiichiro Toyoda and Taiichi Ohno of the Toyota Motor Corporation (Black and Miller, 2008). Iwata and Nakao, cited in Black and Miller (2008) designed the following model of the Global Production System or 'Lean House' to illustrate the premises of Lean (see Figure 1):

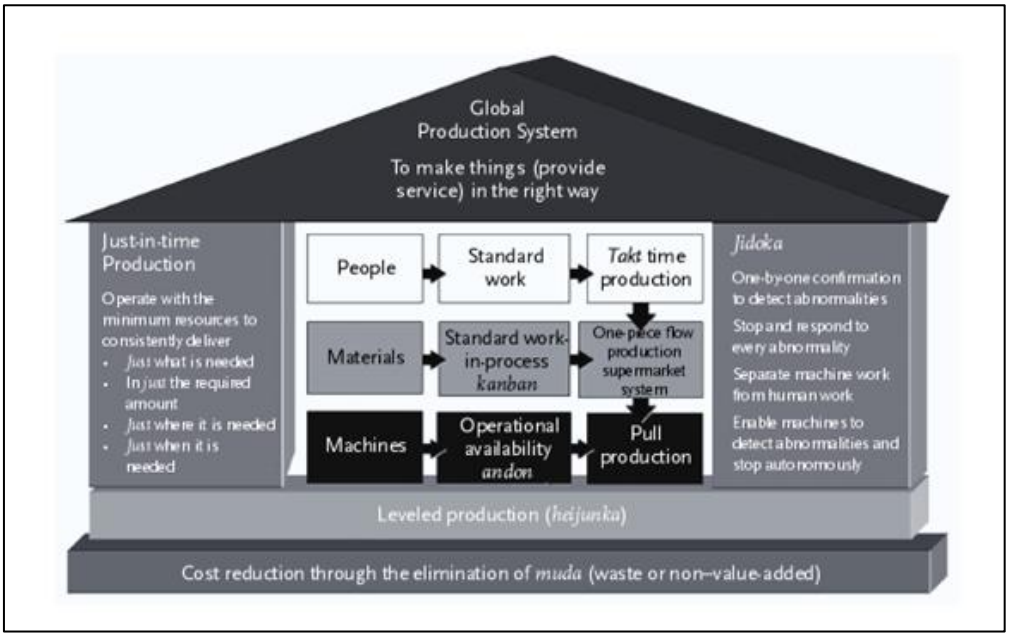


Figure 1: The 'Lean House'(Iwata and Nakao, cited in Black and Miller, 2008, p. 45)

Black and Miller (2008) describe the foundations of the Lean house as the main goal of Lean; to reduce cost through the removal of waste (or 'Muda,' in Japanese), which in healthcare might be to stop taking time to collect unnecessary patient information. The floor is 'levelled production,' (or 'heijunka,') where the flow of processes is maximised and bottlenecks are eliminated so that production is more even throughout the process, for example, booking patient appointments in timeslots appropriate to demand. The just-in-time (JIT) production pillar represents delivering healthcare that is necessary; the right amount, at the right time and in the right place, for example ensuring a surgeon has the right instrument when required. The 'Jidoka,' pillar involves workers capitalising on the use of equipment and technology, and developing processes that identify and reduce defects (Black and Miller, 2008). The three columns within the house represent organisational resources (left); Lean methods such as standardised work ('kanban') and operational availability ('andon') (middle); and efficient production processes (right). The roof covering all these aspects represents the system as a whole working together to maximise efficiency (Black and Miller, 2008).

Five 'Lean Principles' have been proposed by Womack and Jones (1996); 'Specifying Value' (as this is not fixed and is defined ultimately by the customer), 'Identifying the Value Stream' (all actions required

for delivery of the product to the customer), ‘Flow’ (ensuring the value-adding procedures flow); ‘Pull’ (encouraging the customer to pull the product towards them, rather than the system always working to push the product to the customer); and the ‘Pursuit of Perfection’ (realising there is always room for improvement). There are numerous reports of success when implementing Lean principles in various areas of healthcare (for example see Ben-Tovim et al., 2007; Bigelow et al., 2010; Kim et al., 2006; Lees, 2010). However, critics propose that the benefits of ‘Lean’ are limited in public healthcare in comparison with the manufacturing sector because of fundamental differences between sectors. These differences lie in the concept of ‘the customer’ (as there can be multiple customers in healthcare such as patients, commissioners, and other hospital departments), and in the concept of demand and capacity (as public healthcare is generally designed to be capacity-led as opposed to manufacturing which can be led by demand) (Radnor et al., 2012). There is also some hostility towards Lean as it is perceived to be associated with implementing cost cutting and job losses to increase productivity whilst reducing resources (Cross, 2012). Many of the studies examining Lean have been carried out in the American healthcare system, although a review of the annual reports of 152 hospital trusts in the UK found that 53% of them were identified as implementing (or formally contemplating implementing) some form of Lean technique, including *PW* (Burgess et al., 2009).

As noted on page 13, Wright and McSherry (2013) categorised literature relating to the technical aspects of *Productive Series* programmes, such as the implementation of Lean techniques, as ‘Procedural’. One study that fulfils this criteria examined the implementation of Lean via the *Productive Operating Theatre*. By using methods of observation and interviews with staff implementing this programme, Waring and Bishop (2010) identified three analytical themes. The first was the theme of ‘Rhetoric’, whereby the language used by the leaders of the implementation was important firstly in justifying to clinicians the benefit of Lean in terms of improving patient care, and secondly in order to demonstrate their expertise in Lean methodology. The second was ‘Ritual’, which was concerned with the rote processes put in place to improve quality (for example, audits and checklists), and the way that that these rituals became hollow when staff failed to use them when required, but carried them out even when it was too late to be of

benefit, in part to demonstrate their 'compliance'. The third, 'Resistance', referred to staff members' 'cynicism' of the motivation and expertise of the Lean leaders, and the perception that the changes that had been made impacted negatively on clinical practice. Waring and Bishop (2010) conclude by proposing that Lean is unlikely to be successful in clinical practice due to its poor translation from its manufacturing roots and the different technical and cultural considerations existing in healthcare.

Many studies relating to QI initiatives describe the various barriers and facilitators that are met on implementation. Even before implementation, Grimshaw et al. (2006) submit that serious consideration needs to be taken as to what initiative should be used, and how it should be disseminated. In their review of 235 studies into the dissemination of clinical guidelines and implementation approaches spanning over 30 years, they concluded that there was still a need for a rigorous and robust collection of evidence which could be drawn upon to inform QI methods. This inadequate evidence base in itself provides a barrier to effective QI implementation, and of the small number of experimental studies into QI initiatives that exist, often only weak or moderate effects are found (Walshe, 2007). Failure of quality improvement initiatives has been attributed to issues within the organisational system (e.g. culture or leadership) as opposed to individuals (Pollitt, 1996; Walshe and Offen, 2001), and particularly in healthcare, problems can be caused because of the differences between the original sectors that the initiative originated in (e.g. manufacturing or business) and the differing needs of a service industry (Antony et al., 2007; Waring and Bishop, 2010).

Other factors that impact on the effectiveness of the QI initiative include the provision of relevant resources for the programme (Powell et al., 2008), the engagement of key stakeholders (Powell et al., 2009; Powell et al., 2008), particularly frontline staff (Randolph et al., 2012); and the need for implementation from a system-perspective which receives commitment across the whole organisation (Gardner et al., 2010). However, despite the range of factors identified, it is proposed that it is not necessarily the initiative itself, but *how* that initiative is applied to the specific context which is key to its effectiveness or ineffectiveness (Boaden et al., 2008; Kaplan et al., 2010; Powell et al., 2009).

1.5 The Productive Series as an Innovation

Previous research examining the *Productive Series* programmes have analysed the initiative as an innovation (see National Nursing Research Unit and NHS Institute for Innovation and Improvement, 2010b; NHS East of England, 2010 op cit.). Innovations have been defined as ideas, practices or objects that are seen as new by potential adopters such as individuals or organisations (Fleuren et al., 2004; Rogers, 2003), which might include novel processes, new technology, or the introduction of new systems of computer support in an organisation (West et al., 2003). They have been categorised as being administrative (changing organisational structure or processes); technological (new technology or changes to it); or ancillary (involving parties outside the organisation) (Damanpour, 1987). Innovation is important as a driver of progress, as it challenges accepted norms and introduces potential for development (Dodgson and Gann, 2010). However there is a 'pro-innovation bias' in the research literature (Abrahamson, 1991; Rogers, 2003) where innovation is assumed to be positive, and their negative consequences are not often researched (Gripenberg et al., 2012). Approaches to innovations in organisations can be closed, where innovation is encouraged to arise from within the organisation, and open, where collaboration with agents outside the organisation is sought (Kuratko et al., 2011).

1.5.1 Innovation Spread

The way in which innovations or ideas spread has been described in different ways. For example, the term "Critical Mass" in the field of physics is used to describe the amount of radioactive material required for a nuclear explosion, and this expression has also been used in the social sciences to reflect the number of people required to take on a social phenomena which enables it to manifest in the wider society (Oliver et al., 1985). Similarly, Gladwell (2001) proposes that the spreading of ideas can be best understood by seeing them as epidemics, and that there are three principles of epidemics that are reflected in the process of how an idea is spread; contagiousness (that the idea can 'spread' from person to person); that small causes can have disproportionately large effects, and that changes can occur quickly and dramatically, at what he terms, 'the Tipping point'.

In the academic literature, the manner in which innovation spreads has been seen to occur using two different methods; diffusion and dissemination. With diffusion at one end of a continuum, "...the spread of innovations is unplanned, informal, decentralised, and largely horizontal..." whereas dissemination lies at the opposite end, where "...innovation is planned, formal, often centralised and likely to occur more through vertical hierarchies," (Greenhalgh et al., 2004, p. 601). However, this distinction does vary among researchers, as Rogers' (2003) influential work into the 'Diffusion of Innovation' includes both unplanned diffusion and planned dissemination as part of his diffusion theory.

Rogers (2003) put forward four main elements in the Diffusion of Innovation; the innovation, channels of communication, time, and the social system in which the innovation operates. He proposed that in all diffusion research studies, if the Y-axis on a graph represents percentage of adoption (0-100%), and the X-axis represents time, the process of diffusion over time will take the form of an S-shaped curve. Slow adoption is realised initially, followed by an acceleration of adoption and then a slowing down as the maximum number of system members that will adopt the innovation is reached (Rogers, 2003). Innovation can be spread via positive Word of Mouth (see Mazzarol, 2011) and social modelling by organisational members who become, "opinion leaders," (Dearing and Kee, 2012, p. 58) for other potential users. Advocates of the Diffusion of Innovation theory also propose that there are three main influences that have been shown through empirical studies to affect the rate that the innovation will spread, which are the potential users' perception of the innovation, their inclination to adopt (or not adopt) innovations, and also their context, particularly with regards to management and communication (Berwick, 2003).

With regards to the Dissemination of Innovation, there is a relatively new body of research into the science of dissemination and implementation in healthcare. This recognises that passive dissemination methods, for example dissemination of information by post or by consensus articles in journal publications, are in the main unsuccessful (Bero et al., 1998), which suggests a need for more proactive

methods of dissemination and implementation which acknowledge the impact of potential adopters and organisational factors (Colditz, 2012). An important concept in the dissemination of innovations is Fidelity (sometimes referred to as 'Integrity', Carroll et al., 2007), which has been defined as, "...the degree to which...programme providers implement programmes as intended by the programme developers," (Dusenbury et al., 2003, p. 240). Programmes contain both "core" elements – those that would be seen by the programme developers to be essential to the implementation, and those that are "adaptive" elements that if modified will not affect the logic of the original programme (Allen et al., 2012). Fidelity has been asserted to have five main elements, namely 'Adherence', 'Dosage', 'Quality of Delivery', 'Participant Responsiveness' and 'Programme Differentiation' (Allen et al., 2012; Dane and Schneider, 1998; Dusenbury et al., 2003). 'Adherence' is the degree with which programme implementation adheres to the original programme author(s) intentions (Dusenbury et al., 2003), in part relating to 'Dosage'; which refers to how much of the programme adopters are exposed to (Carroll et al., 2007). Fidelity can also be measured in regards to 'Quality of Delivery' (the extent to which the delivery of the programme facilitates the programme author(s) intentions) and 'Participant Responsiveness' (the extent to which participants engage with the implementation) (Carroll et al., 2007). 'Programme Differentiation' is the identification of the unique and distinct aspects of a programme which differentiate it from another programme (Dusenbury et al., 2003).

Fidelity is important to consider in researching innovations because of how it affects internal and external validity, as internal validity is compromised if the implementation differs to its original programme's intentions (as the original programme is not being tested), and a lack of standardisation of the programme when implemented in different contexts affects its external validity (Allen et al., 2012). In practice, fidelity is also an important aspect to consider as there is increasing evidence that indicates that fidelity of implementations is positively associated with their effectiveness (Allen et al., 2012; Carroll et al., 2007). However, Allen et al. (2012) relates this finding specifically to Evidence-Based Interventions, so its application to the *Productive Series* which currently has a low evidence base should be treated with caution.

1.5.2 Innovation Adoption

The taking up or adoption of an innovation is dependent on individuals' perceptions of five characteristics or attributes of the innovation; 'Relative Advantage', 'Compatibility', 'Complexity', 'Trialability' and 'Observability' (Rogers, 2003, pp. 15-16). 'Relative Advantage' is the extent to which the innovation is seen to be an improvement on the previous way of working. 'Compatibility' is the extent to which potential adopters see the innovation as being compatible with their needs, experiences and values. 'Complexity' is the extent to which the innovation is judged as difficult to use and understand. 'Trialability' is the extent to which potential adopters can experiment on the innovation, and 'Observability' is the extent to which other agents can visibly see the results of the innovation. In a study examining 153 doctors' adoption of the Canadian Heart Health Kit, using a questionnaire informed by these characteristics and also Ajzen's (1991) Theory of Planned Behaviour which asserts that whether one behaves in a certain way is dependent on their 'behavioural intention' (their intention to carry out the behaviour) or their 'perceived behavioural control'; the extent to which they believe they are able to carry out the behaviour (Maio and Haddock, 2010). Their 'behavioural intention' is dependent on their attitude towards the behaviour, their 'subjective norm' (their perception of how important peers would judge the behaviour), and their 'perceived behavioural control'(Ajzen, 1991). Scott et al. (2008, p. 46) found that 'Relative Advantage' and 'Observability' were more influential in the adoption of the Heart Health Kit than the other three characteristics. This in part aligns with the assertion that, "Relative Advantage is a *sine qua non* for adoption," (Greenhalgh et al., 2004, p. 594), that is, without 'Relative Advantage' being perceived, the innovation will generally not be taken up (Scott et al., 2008).

Through implementing their systematic literature review, Greenhalgh et al. (2004, pp. 596-598) build on these attributes pertaining adoption, adding 'Reinvention', 'Fuzzy Boundaries', 'Risk',' Task Issues', 'Knowledge Required' and 'Augmentation/Support'. 'Reinvention' is the potential ability for adopters to be able to adapt the innovation to be more relevant to their needs, and 'Fuzzy Boundaries' refers to the innovations having a "hard core" (without which the innovation ceases to be the innovation as intended),

surrounded by a "soft periphery" (which are the structures in the organisation needed for the innovation to be implemented in full). 'Risk' is the level of uncertainty that the outcomes will be achieved as perceived by the potential adopter, and' Task Issues' relate to the extent to which the innovation is perceived as being relevant to the potential adopter's work and whether task performance is perceived to improve as a result. 'Knowledge Required' to use the innovation is the extent to which the innovation can be transferred and applied in different contexts, and 'Augmentation/Support' relates to factors that will help support potential adopters to use the innovation, for example a service support team (Greenhalgh et al., 2004, pp. 596-598). Therefore all of these attributes of *Productive Series* programmes may affect the extent to which it is adopted. However it is important to note that these are the perceived attributes of the innovation, rather than being essentialist properties of the innovation, and so adoption of innovation is not just dependent on the nature of the innovation itself, but how the innovation is perceived by the potential adopters, and this will of course vary from person to person (Dearing et al., 1994).

The context in which the innovation is adopted is also has a great influence on the adoption or diffusion process (Dopson et al., 2002; Fitzgerald et al., 2002; Scott et al., 2008), and Berta et al. (2005) note that there are inherent constraints particularly in health care organisations when adopting innovations, and attempts to introduce them should not be taken lightly. Øvretveit (2011) submits that research into the influence of context on improvement innovations is useful for two main reasons. Firstly, it helps to assess the efficacy of programmes when the use of controlled trials is not possible. Secondly, it helps in a practical way as readers can see how different contexts affected the implementation, and can assess the contexts identified to judge the likelihood of success of implementing the innovation their own organisations.

1.5.3 Innovation Determinants

Various empirical studies have identified numerous determinants of (that is, factors that impede or facilitate) innovations. In a literature review of 57 studies and a Delphi study seeking 75% consensus from innovation experts, Fleuren et al. (2004) identified 50 determinants of innovation. These included

determinants relating to the socio-political context (for example, 'Patient cooperation' and 'Regulations and legislation'), the organisation (for example, 'Collaboration between departments' and 'Staff capacity'), and the innovation itself (for example, 'Clear procedures' and 'Financial resources'). They also found that although it is important to identify determinants, or at least any barriers to change, when planning implementation strategies (Grol, 1997, p. 420), none of the studies in the review reported carrying out a determinant analysis before the implementations took place.

Mittman (2012) describes three main barriers to the effective implementation of innovations that are specific to healthcare. Firstly Professionalism provides barriers because in non-healthcare settings, usually there is a pyramid-shaped hierarchy of power and management. However, at the frontline or at the bottom of the pyramid in health care, most staff are highly educated professionals who have more respect for the views of peers and other professionals than the hierarchy of management that exists in their organisation. Secondly, the level of uncertainty in health outcomes and contradictory research findings has led to clinicians resisting a change of their thinking in regards to clinical practice. Thirdly, there are multilevel influences in health care, ranging from the patient, the clinician and the clinic, to the organisation, the commissioners, and national policy makers, and many that try to effect change do not have the authority or resources to address all levels of influence. These barriers are not easily resolvable, and so implementers of innovations in healthcare, such as *Productive Series* programmes, will need to consider how these factors will affect the implementation of the innovation in order to reduce their impact where possible.

1.6 The Productive Series as a Change Programme

The NHSI website describes the *PCS* programme as, "...an organisation-wide change programme which helps systematic engagement of all front line teams in improving quality and productivity," (NHSI, 2011a).The concept of 'change' has been explored by philosophers for centuries (Kanter et al., 1992), and has been a key theme in the field of social science (Pettigrew et al., 2001). From an evolutionary perspective, whereas adaption to change has ensured our survival by physiological features such as

homeostasis, our ability to emotionally adapt to change appears to have lagged behind (Fisher and Cooper, 1990). In all walks and stages of life, change is apparent, and is necessary for our development and survival (Dunphy et al., 2007). However, it is also well documented that some people, as opposed to thriving on change, often respond to change with fear and anxiety (Miller and Yeager, 1993). As people spend much of their waking lives at work (March and Simon, 1993), and change at work can have an influence on workers' wellbeing (Rafferty and Griffin, 2006), it is inevitable that change in the workplace has been well researched. It is change in the work context on which this section will focus, examining the literature relating to change in organisations.

1.6.1 Theories of Organisational Change

Lewin's (1947) 3-Step Model of organisational change conceives the changing organisation as an ice cube (Kanter et al., 1992), with organisational change requiring the organisation to 'unfreeze', move and 're-freeze' (Burnes, 2004). Leavitt (1965) put forward a more complex model of change that saw organisations consisting of four main variables; Tasks, Technology, Structure and Humans, proposing that these variables interact with each other, so that if any are affected in some way, this causes change in one or more of the other variables. However, the field of complexity science saw the complexity involved with organisational change as greater still. Caldwell (2006) explains, "The central idea of 'complexity science' is that natural systems are characterised by dynamism, non-linearity and unpredictability, rather than simply equilibrium, order and predictability," (Caldwell, 2006, p. 92), where some level of natural order emerges despite the complexity (Senior and Swailes, 2010). Transferring this idea from the natural sciences to organisations, the complexity theory literature draws on three main aspects; "chaos theory, dissipative structure theory, and...complex adaptive systems," (Stacey et al., 2000, p. 85).

Chaos theory sees organisations as being dynamic systems that constantly change, where factors that introduce variation even at a very tiny level can have a massive effect on the overall organisation, which creates a high level of unpredictability (Levy, 1994). Dissipative structure theory acknowledges that organisations require energy from internal and external members in order to survive, otherwise the

organisation will dissipate (Barnard, 1938, cited in Anderson, 1999). Complex Adaptive Systems (CAS) theory maintains that this self-organisation signals the adaptation of the organisation to changes in its environment, where employees' individual behaviour is inter-dependent (Schneider and Somers, 2006), each behaving in reference to their beliefs about the way they should interact (Stacey et al., 2000). An understanding of agents' individual behaviour will then give an idea as to the behaviour of the whole system. Begun et al. (2003) asserted that CAS theory provides a useful model to describe health care organisations, as CAS sees the organisation as a dynamic, living organism which adapts to its environment, which is a more appropriate metaphor than the traditional machine-like organisational models which simply transform inputs into outputs.

Organisations have also been conceived as systems, and Cilliers (1998) notes that when studying complex systems, one needs to acknowledge that complex systems are made up of its sub-systems and the *interactions* connecting these sub-systems, rather than simply the sum of its separate sub-systems working in isolation. Traditionally organisations were studied as though they were closed-systems that could be studied as independent from the environment, and attention to the internal workings of the organisation would be sufficient to increase its effectiveness (Daft, 1998). This perception started to change with the influence of other theories; including General Systems Theory (Katz and Kahn, 1978). General Systems Theory (see Von Bertalanffy, 1972), the application of Systems Thinking (Mingers and White, 2010), proposed that certain principles can be applied to systems at all levels, from single biological cells to society (Katz and Kahn, 1978). These new theories heralded the view of organisations being 'open systems' (Katz and Kahn, 1978); systems consisting of sub-units that connect and work with each other that are open to interaction with the environment (Anderson, 1999). As open systems are complex and maintained by their interaction with a highly dynamic environment (Scott and Davis, 2007) healthcare organisations are usually viewed as open systems (Thompson, 2010).

The NHS Commissioning Board have adopted a single model to implement change and improvement in the English healthcare system (Martin et al., 2013; NHS Commissioning Board, 2012; NHSIQ, 2013c),

called the ‘NHS Change Model’ (NHSIQ, 2013a). This has been designed to provide an evidence-based framework (NHSIQ, 2013a) and encourage a shared language of change (NHSIQ, 2013b). The model is made up of a core component (‘Our Shared Purpose’) which encourages the evaluation of the potential change as to whether it aligns with the NHS’ shared purpose as set out in the NHS Constitution (DoH, 2013). This is supported by seven other components that need to be considered when implementing change. These include the engagement of staff so that they are ready to change (‘Engagement to Mobilise’), considering whether the relevant leadership skills are possessed by the change agents (‘Leadership for Change’); whether the spread of the change has been planned effectively (‘Spread of Innovation’); and whether the methodology of the improvement is evidence-based (‘Improvement Methodology’). ‘Rigorous Delivery’ and ‘Transparent Measurement’ are other components of the change model, and ‘System Drivers’ should be managed to ensure that the organisational system works to promote and sustain the change. There are also three dichotomies that underlie the NHS Change model and require balance in order for effective change to take place; ‘Intrinsic and extrinsic motivators for change’, the ‘Anatomy and physiology of change’, and ‘Balancing commitment and compliance’ (NHSIQ, 2013a).

Martin et al. (2013) evaluated the ‘NHS Change Model’ using documentary analysis, interviews with early implementers of the model and ‘virtual ethnography’ of webinars. Their findings indicate that the model has the potential to greatly benefit change processes in healthcare, although it could be improved by being more explicit about which parts of the model are essential and which can be adapted or omitted. The data also highlighted some issues with the model. For instance, the ‘Our Shared Purpose’ component sometimes provided participants with a discourse enabling them to overlook colleagues’ resistance to change, and the NHS system in which the participants tried to effect change was not conducive as a ‘System Driver’. Due to the NHS Change Model’s relative infancy there is little other research on this model of change, so further studies are required.

1.6.2 Typologies of Change

Kanter et al. (1992) submits that the concept of change generally consists of movement from one state to another, with change in organisations therefore involving movement from 'State 1' at one point in time to 'State 2' at a second point in time. Incremental change, where small stages of isolated of change lead to transformation, was seen as the dominant model of change until the 1970s (Burnes, 2004). At this point the dominant models became 'punctuated equilibrium', which models a general constant level of stability punctuated by radical change (Romanelli and Tushman, 1994), and 'continuous transformation', where continuous change is seen as vital for an organisation's survival (Burnes, 2004).

Just as organisational change has been seen to differ in pace, it has also been acknowledged to occur to different levels or qualities, depending on the actors initiating the change, the depth of change, and the scale of change. Watzlawick et al. (1974) distinguished between first-order and second-order changes, where first-order change defined change occurring *within* a constant system whereas second-order change was seen to be a change of the system or framework itself. Building on these categories, Golembiewski et al. (1976) submitted three types of change; alpha, beta and gamma change. These classifications are based on the extent to which a measurement of the change can remain constant before and after the intervention takes place. So for example, a measurement using a Likert scale for an alpha change would remain relatively constant before and after an intervention is implemented. Whereas if a Likert scale was used to measure a beta change, the change itself might bring more understanding so that the Likert scale is calibrated to have different meaning after the intervention. This might entail a lower score after the intervention, even though other reports suggest improvement, because the respondent has recalibrated the meaning of the scale. In contrast, gamma change is so dramatic that a scale used before the change becomes irrelevant when used after the change has taken place.

Kanter et al. (1992, p. 11) distinguishes between 'small-c "change"' which is superficial and transient in its effects on the organisation, and 'capital-C "Change"' which is a more substantial development of the character of the organisation, and both these require an understanding of an organisation's character to be

able to recognise and effect intentional change. Change has also been distinguished as being Planned or Episodic, in contrast to continuous and emergent (Weick and Quinn, 1999). Planned or Episodic change involves the intentional decision to make improvements or more significant changes to an organisation (Burke, 2011). In contrast, Continuous or Emergent changes can still be significant but instead occur through the cumulative effect of constant, incremental adjustments (Weick and Quinn, 1999). They are led from the bottom up, where staff themselves initiate and own the changes, and therefore usually generate less resistance to the changes than do Planned or Episodic (Bouckenooghe, 2010).

Porras and Robertson (1992) further categorised these changes drawing on first- and second-order typologies of change (with similar definitions to those asserted by Watzlawick et al., 1974 op cit.), defining Planned, first-order changes as 'Developmental', Planned, second-order changes as 'Transformational'; Unplanned, first-order changes as 'Evolutionary', and Unplanned, second-order changes, 'Revolutionary'. They stop short of suggesting how the creation of these further typologies can inform or improve the change process, however Thompson (2010) argues that understanding the types of change and how change is conceptualised is key, particularly for managers in healthcare in order to manage change effectively. Bate et al. (2004) asserted similar typologies of change in healthcare, namely the "Programmatic" approach (planned, top-down, structured, about "motivating" people) and the "Social movements" approach (informal, bottom-up or peer to peer, about inspiring or "moving" people), and proposed that as these are not always mutually exclusive, better awareness and management of the combination of these perspectives might start to play a significant part in healthcare improvement. The *Productive Series* programmes demonstrate this combination of approaches, by being planned programmes of change, that are intended to resonate with the values of frontline staff to make improvements from the bottom-up (White and Waldron, 2014; White et al., 2014b),

1.7 Summary of literature and Research Questions

A review of the literature relating to the *Productive Series* found the programmes to be portrayed in a generally positive light, with articles discussing the process of implementation briefly mentioning the difficulties and challenges faced, but on the whole conveying that the programme has received a positive reaction from frontline staff, and that benefits have been realised. This replicated the positive publication bias of *PW* found by Wright and McSherry (2013). This review also found the implicit and explicit promotion of the programme through the Anecdotal and Experiential reports, and also through use of commentaries provided by leading clinicians. Anecdotal reports often reported quantitative outcomes with little detail or critique about how those outcomes had come about. Some common themes emerged from the literature, including the lack of consistent measurement definitions, and the need for Board and management support and engagement for the success of the programme. Many of the research studies and some of the Experiential reports involved the NHSI who created the programme and so might have involved a conflict of interest, and many of the studies had a participant bias where studies focused on staff who had engaged with the programme, leaving those not engaging with the programme, unheard.

In regards to QI initiatives, in particular Lean techniques which feature heavily in the *Productive Series* programmes, a review found that there had been many initiatives over the years that had been transferred from other sectors into the field of healthcare, and that there is some doubt that this transfer is always successful due to the differences between sectors. In addition, although different principles inform the different initiatives, many of the barriers and facilitators of QI initiatives appear to be similar, and researchers argue that the type of QI initiative itself has less bearing on its effectiveness than the way it is implemented.

A review of the Innovation literature identified a recent body of research which examines the dissemination of innovation, and again found a publication bias towards positive outcomes. The Innovation literature also emphasised the role of the context in which the Innovation is spread, and that again, the field of healthcare has various nuances that need to be considered during implementation. The

concept of ‘Fidelity’ is important in the dissemination of innovations, as it determines the validity of dissemination research. For evidence-based innovations, ‘Fidelity’ appears to affect innovations’ effectiveness, although it was noted that due to the *Productive Series’* low evidence-base, this assumption should be treated with caution. However, this justifies the need for more research on *Productive Series* programmes in order for its evidence-base to be increased.

Theories of organisational change have developed from a basic 3-step process into models that acknowledge great complexity. Healthcare organisations are seen as Complex Adaptive Systems, which are open systems that need to interact with changes that occur externally. Many typologies of change have been proposed, which are classified depending on the drivers, depth, and scale of the change. The *Productive Series* programmes are designed to be planned programmes of change that become deeply embedded into practice on an organisational scale. They are also intended to complement clinicians’ values so that improvements are made from the bottom-up (White and Waldron, 2014; White et al., 2014b),

In conclusion, the *PCS* programme concerns elements of Quality Improvement, Innovation, and organisational change, and there is a relatively wide evidence base regarding these aspects. There is also a growing body of research on the *Productive Ward* implementations. However, the differences between an acute ward environment and a community services organisation warrant specific research on the *Productive Community Services* programme, as there is little evidence available into the implementation of *PCS* itself. There is therefore little research about the *PCS* programme in regards to the contextual factors that enable or constrain its efficacy, and much of the previous research on *Productive Series* programmes are considered ‘Anecdotal’ reports (see page 13) with little detail about the processes behind the figures reported. These gaps in the research highlight a need for empirical evidence to examine the *PCS* programme and its implementation. Therefore the objective of this research was to explore how the results of the programme were created and restricted by the contexts of the programme interacting with the programme’s methods (Greenhalgh et al., 2009) in order to provide a situational understanding of the

programme's efficacy (Walshe, 2007). This research also aimed to examine the meaningfulness and reliability of the quantitative data generated during the implementation, and to examine the implications of the findings for certain key stakeholders in the implementation. These stakeholders were firstly managers, as leaders in healthcare play a key role in shaping the organisational conditions necessary for effective implementation (Morrow et al., 2014). Secondly were implementation teams, as they shape how programmes are applied to context, which is key to their effectiveness or ineffectiveness (Boaden et al., 2008; Kaplan et al., 2010; Powell et al., 2009). The third were commissioners, as the design of commissioning schemes and the contexts that they are employed in play a significant role in their impact (Epstein, 2012; Kristensen et al., 2013). Therefore the following research questions were posed (also see Figure 2):

1. What were the perceptions of healthcare staff regarding an implementation of *Productive Community Services*?
2. To what extent are the quantitative data generated during *Productive Series* programmes meaningful and reliable?
3. What contexts constrain or enable change during the implementation of community healthcare innovations?
4. What are the implications of these findings for managers, implementation teams and commissioners in healthcare?

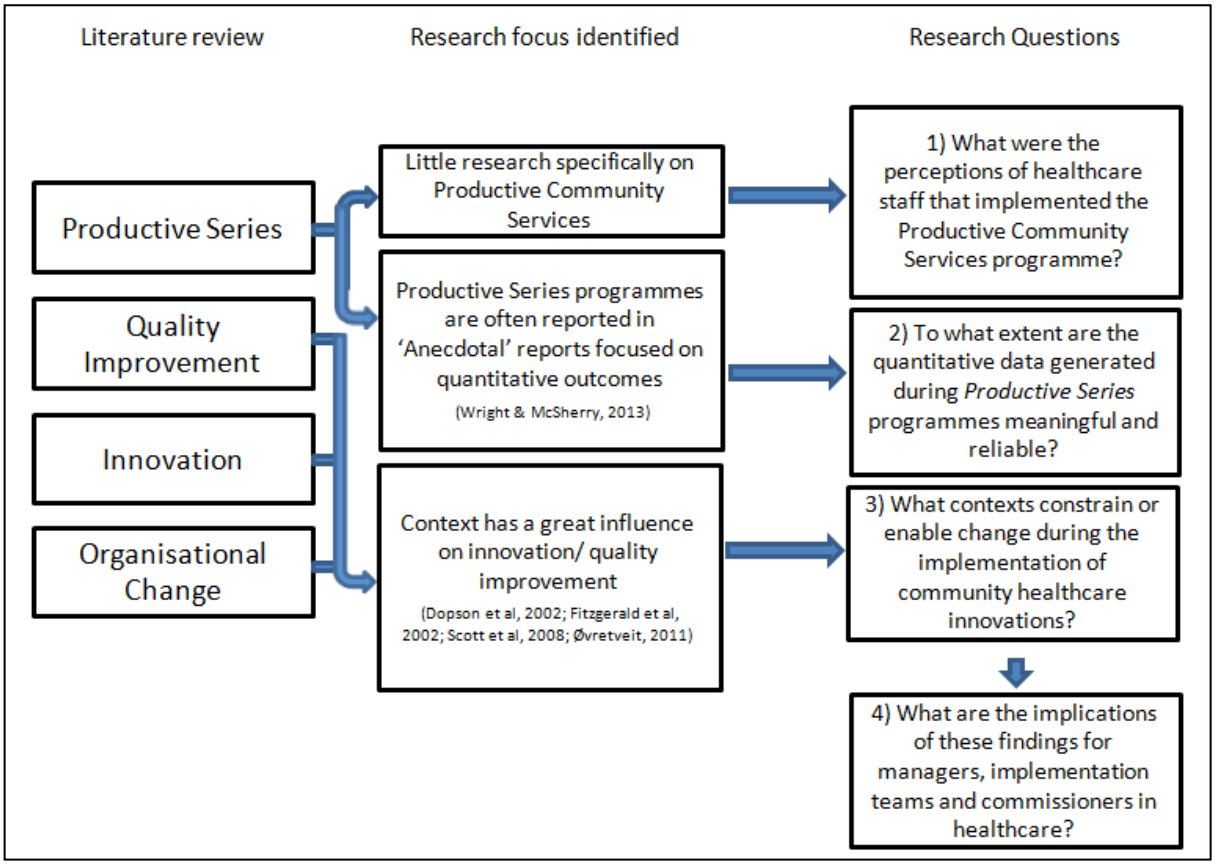


Figure 2: Development of the research questions

Chapter 2: Research Context, Methodology and Methods

2 Introduction

A review of literature in the previous chapter led to the proposal of four research questions. This chapter aims to describe the methods carried out in order to address these questions. It begins by providing some context behind the research and the organisation under study, as context shapes and is shaped by the individual staff members who interact within an organisation (Griffin, 2007). The theoretical framework and methodology employed will then be described, including a discussion of the epistemology and ontology informing the research, and also the Researcher's ethical stance and reflexivity (explained on page 51). As guided by the theoretical framework employed, the Programme Theory that structures *PCS* will be described, followed by an explanation of how the programme was implemented in the organisation under study. More detail will then be provided regarding the methods of data collection and analysis used during the research process to investigate the programme implementation.

2.1 Research Context

This research commenced in 2010, when amidst the context of a worldwide recession (DoH, 2010b), a new coalition government advised that up to £20 billion of efficiency savings would need to be made by 2014 (DoH, 2010a). Referring to this necessity, the NHS chief executive stated that the NHS needed to work towards increasing quality and productivity by ways of innovation and prevention, as the NHS was, "...about to enter perhaps the toughest financial climate it has ever known," (DoH, 2009a, p. 2). With this task in mind, the Quality, Innovation, Productivity and Prevention (QIPP) initiative was set up by the government's Department of Health for the NHS, with the 'QIPP financial challenge' aiming to help identify and implement c. £1.4bn of these efficiency savings (NHSI, 2013b). The NHSI designed the *Productive Series* as part of their on-going work to deliver on QIPP (NHSI, 2013b), and *PCS* is part of this *Productive Series.*

The focus of this thesis examines the implementation of *PCS* in a Community Services healthcare organisation. Johns (2001) submits that in research concerning organisational behaviour, context should be provided on both substantive and methodological aspects. Substantive information concerns the organisation and employees, including the time that the organisation is situated in and the nature of work that employees engage in. The methodological aspect focuses on the author of the research (termed 'the Researcher') and how they had access to the organisation. These contextual areas will be described below.

2.1.1 Substantive Context

The organisation under study (under the pseudonym 'South Astford Community Services', or SACS) is a Community Healthcare Services organisation in East Anglia, which provides general healthcare interventions in various sites located across the community, in patients' homes, and from three community hospitals, providing mainly secondary or tertiary care to patients, and often with a view to avoiding the admission of patients into acute care settings. The organisation serves a population of over 1.9 million people, and has a workforce of over 1,100 staff (SACS, 2012a, Appendix B). A full list of teams involved with the *PCS* programme is displayed in Table 2 (page 46), however in brief, staff range from district nurses and health visitors, to physiotherapists and smoking cessation advisors. There were 849 staff in the services implementing *PCS* (SACS, 2012d). These included managers, team leaders, clinicians, Healthcare Support Workers and administrators. The organisation also has a range of support services (for example Finance and Human Resources), however staff in these departments were not expected to implement *PCS* due to their lack of direct contact with patients.

At the beginning of the study in July 2010, SACS was an organisation within the NHS, so in the preceding years it had experienced the changes that been mandated through various policies and reforms. Prior to 2006, its services had been part of three previously existing NHS Trusts, and between 2006-2008 SACS was part of the local Primary Care Trust (SACS, 2012b, Appendix B). In 2008, as part of the

Department of Health's initiative 'Transforming Community Services', where the organisation, as a Provider of healthcare had to separate from the Primary Care Trust Commissioners (DoH, 2009b), SACS became an Arm's Length Trading Organisation (SACS, 2012b).

Alongside the organisational changes described above, as part of the (now disbanded) National Programme for Information Technology [NPfIT] (see Robertson et al., 2011), and as mandated by the organisation's Strategic Health Authority (SHA) at the time, SACS had also invested in the electronic records software, SystmOne. A support team had been set up to roll this system out, and this started to be implemented in clinical services in 2008. By March 2011, SystmOne had been rolled out to some extent within the majority of clinical services. One month later, SACS became a Social Enterprise, a Community Interest Company [CIC] in its own right and separate from the NHS that it had been part of since its inception. In March 2012, the *PCS* implementation concluded, although the semi-structured interviews that inform part of this research took place from April-July 2012.

During this research period also came the publication of the Francis report (see Francis, 2013) following the failings at Mid-Staffordshire NHS Foundation Trust, which challenged the quality of clinical care in the NHS. As noted above, the NHS was also experiencing a time of austerity, responding to David Nicholson's call in 2009 to release £15-20 billion in efficiency savings between 2011-2014 (Nicholson, 2009), which itself came within the context of a global recession. Also, for the first time in the history of the NHS, NHS organisations started to go into administration (South London Healthcare NHS Trust in 2012, followed by Mid-Staffordshire NHS Foundation Trust in 2013, see ITV, 2013). Although the Francis report and the special administrative measures taken did not occur in the organisation under study, these events and the need for efficiency savings occurred at such a significant and public level that they can be considered as indirectly forming part of the organisational context.

Service	Abbreviation (if applicable)	*PCS* Co-ordinator	Modules covered in Year 1	Modules covered in Year 2
Admission Avoidance Team	AAT	B	1-9	N/A
Adult Diabetes Service		C	1-2	3-6
Adult Speech & Language Therapy	Adult SALT	D	1-2	3-9
Assessment & Rehabilitation Unit	ARU	C	1-2	3-9
CareCall		D	1-2	3-6
Children's Community Nursing	CCN	D	1-2	3-6
Children's Diabetes		D	1-2	3-6
Children's Services		C	1-2	3-6
Community Assessment Service	CAS	D	1-2	3-6
Community Dental Services		C	1-2	3-6
Community Sexual Health	CASH	D	1-2	3-6
Continence Service		D	1-2	3-6
Dermatology		C	1-2	3-6
District Nursing (Area F Locality)		C	1-9	N/A
District Nursing (5 other locality teams)	DN	B/C/D	1-2	3-6
District Nursing Liaison	DN Liaison	D	1-2	3-6
ENT, Audiology & Paediatric Audiology		C	1-2	3-6
Falls Prevention		D	1-2	3-6
Health Visitors (5 locality teams)	HV	B/D	1-2	3-6
Healthy Living Team		D	1-2	3-6
Immunisations	Imms	D	1-2	3-6
Long Term Conditions*	LTC	D	1-2	3-6
Paediatric Continence & Enuresis	Paed. Continence	C	1-2	3-6
Paediatric Occupational Therapy & Physiotherapy	Paed. OT & PT	C	1-2	3-6
Paediatric Speech & Language Therapy	Paed. SALT	B	1-9	N/A
Palliative Care		C	1-2	3-6
Parkinsons Service		D	1-2	3-6
Phlebotomy		B	1-2	3-6
Podiatry Service		D	1-2	3-6
Rapid Assessment Unit	RAU	B	1-9	N/A
Safeguarding Team, Domestic Violence & Looked After Children		C	1-2	3-6
Scheduled Therapy		B	1-2	3-6
School Nurses (5 locality teams)	SN	B/D	1-2	3-6
Smoking Cessation		D	1-2	3-6
Specialist Healthcare Tasks & EPIC		C	1-2	3-6
Tissue Viability & Lymphoedema		C	1-2	3-6
Unscheduled Therapy		B	1-2	3-6
Wheelchair Service		D	1-2	3-6

Table 2: Teams taking part in the PCS implementation

*Long Term Conditions services included the following teams: Chronic Obstructive Pulmonary Disease (COPD), Oxygen Service, Coronary Heart Disease, Pulmonary Rehabilitation and Heart Failure, excluding Parkinsons

NB. This table indicates the teams as they were dealt with by the *PCS* Implementation Team, which was generally by service specialism or service. For the purpose of the module assessments, according to the service specialities and the way that service specialities were allocated to *PCS* Co-ordinators, there were 38 services. If taking all individual and locality teams into account (e.g. counting Tissue Viability and Lymphoedema as two separate teams, and School Nurses as five separate locality teams), there were 62 teams participating.

2.1.2 Methodological Context

During 2009-2010, the Senior Management Team (SMT) at SACS considered applying to become a Social Enterprise, which required them to satisfy the Primary Care Trust and the Strategic Health Authority that they would be able to survive financially as an independent company. In order to help support their case, they felt it would be beneficial to implement *PCS* to demonstrate that efficiencies were being sought. Therefore in June 2010 they seconded the *PCS* Project Manager (*PCS* PM) from within the organisation to start assembling a project team to implement this programme. Two of the *PCS* Co-ordinators (*PCS* Co-ordinators 'B' and 'C') were seconded from their clinical roles within the organisation, while the other *PCS* Co-ordinator ('D') and the *PCS* Project Officer (*PCS* PO) were appointed externally. The SMT also used their existing links with the University of Essex and allocated funding for a senior academic (the 'Project Reviewer') to provide expert advice to the project, and also a 'Research Analyst' to be part of the implementation team, in order to help with the collection of data. This enabled the Research Analyst, the Researcher, to have access into the organisation. The implementation of *PCS* was initially financed by the organisation, with reimbursement provided by 'Commissioning for Quality and Innovation' (CQUIN) funding which was dependent on certain targets being achieved. The targets (see page 59 and Appendix C) were designed on liaison between the *PCS* Project Manager (*PCS* PM), members of the organisation's senior management, and the CQUIN Commissioners.

2.1.3 Theoretical Framework and Methodology

By taking on the role of Research Analyst in the *PCS* Team, the Researcher had access to the data generated during the programme, through the various quantitative and qualitative follow-up and cross-sectional studies carried out as required by the implementation. The Researcher was also able to evaluate the process of the implementation by using aspects of Participant Observation, which involved having access to qualitative data generated during the programme, and semi-structured interviews. Using four

elements that help to develop a research study (Creswell and Clark, 2011; Crotty, 2003), the following section will discuss the research paradigm underlying the research, the theoretical perspective taken, the methodological approach and the methods of data collection carried out.

2.2 Research Paradigm

2.2.1 Epistemology

Epistemology has multiple and often conflicting definitions (Carter and Little, 2007), so to clarify the definition adopted for this research, epistemology is the belief adopted about the relationship between the 'knower' (the Researcher) and the 'known' (the participant) (Lincoln and Guba, 1985; Teddlie and Tashakkori, 2009). Epistemologies are also seen as worldviews or paradigms which have associations with specific philosophical assumptions (Teddlie and Tashakkori, 2009). Teddlie and Tashakkori (2009) propose that there are five major epistemologies; Positivism, Postpositivism, Constructivism, Transformative, and Pragmatism.

Positivism assumes that a reality exists which is objective and can be studied independently by a researcher, without it being affected by their values or subjective experience (Hesse-Biber, 2010). However, this assumption is often criticised (Teddlie and Tashakkori, 2009). The postpositivist position acknowledges the criticism pitted against the positivism stance, accepting that in science, discretionary judgement is unavoidable; there are problems with proving causality when research involves people; knowledge is relative as it is generated through historically-situated paradigms; and no individual methods are perfect, so multiple methods are required (Campbell and Russo, 1999, cited in Patton, 2015). Quantitative methods and assumptions (such as requiring large sample size that are representative of the population, and having a focus on analysing relationships between variables) are aligned with a positivist/postpositivist worldview (Plano Clark and Creswell, 2008).

Between c.1975-1995 there was a 'paradigms debate' in the field of behavioural science, where there was conflict over whether which paradigms were superior; positivist/postpositivist paradigms versus the

emerging constructivist paradigm (Teddlie and Tashakkori, 2009). The constructivist paradigm defines reality as, "...subjective, consisting of stories or meanings produced or constructed by individuals within their "natural" settings," (Hesse-Biber, 2010, p. 102). Thus qualitative methods are required, to enable the interpretation of individuals' experience to be captured, analysed, and again interpreted by the researcher (Ormston et al., 2014).

The paradigms so far described are aligned with either quantitative or qualitative methods. However, the two remaining major paradigms proposed by Teddlie and Tashakkori (2009) advocate the use of both quantitative and qualitative methods, that is, a mixed methods approach. The first is the 'Transformative' paradigm, which use quantitative and/or qualitative methods as necessary in order to progress social justice (Teddlie and Tashakkori, 2009). The second is the pragmatist paradigm. The research reported in this thesis employs a case study design within a pragmatist paradigm, which is characterised by a focus on problems and the outcomes from actions taken, can be pluralistic (in regards to its use of methods and ability to draw on multiple paradigms), and is inclined towards real-world situations (Creswell and Clark, 2011). Within the pragmatist paradigm, the manner in which knowledge was generated was based on practicality, where the Researcher (the 'knower') implemented whatever data collection methods were needed to respond to the research question effectively (Creswell and Clark, 2011), to discover more about the 'known' (the participant). Researching within a naturalistic or interpretive approach, the epistemology assumes that the researcher and the participants are not separate but are both part of constructing the knowledge together (Lincoln and Guba, 1985). This pragmatist paradigm and its associated mixed methods approach was seen to be the most appropriate to address the research questions proposed on page 41, as they required an examination of the experience and interpretation of staff members' constructed perceptions of the programme implementation, and the quantitative data generated during the programme.

2.2.2 Ontology

Ontology is defined as the nature of reality and the focus of inquiry assumed during research (Greene and Caracelli, 2003). Due to the pluralistic nature of the pragmatist paradigm, this research takes on multiple

ontologies in its adoption of multiple paradigms (Greene and Caracelli, 2003). Firstly, quantitative methods draw on the positivist/post-positivist paradigms, whereby the goal of inquiry (Hesse-Biber, 2010) is to test implied hypotheses (for example, that *PCS* would reduce the time taken to carry out processes) to discover if they can be accepted (in this example, whether the time is reduced). Secondly, an interpretive approach has been adopted in the employment of methods of Participant Observation, with inquiry focusing on organisational members' "lived experiences" (Hesse-Biber, 2010, p. 12), and also by using qualitative methods such as questionnaires used in End of Module assessments, and interviews, which encouraged staff to explain certain aspects of their experience of the programme.

Gaglio and Glasgow (2012) notes that evaluation research should incorporate a realist approach, and a realist approach was adopted in the thematic analysis in Chapters 4 to 6, working from the assumption that, "Reality does not consist simply of experiences and actual events; rather, it is constituted by structures, powers, mechanisms and tendencies that underpin, generate or facilitate the actual events that may or may not be experienced," (Kazi, 2003, p. 23). This approach was used to examine the mechanisms, contexts and outcomes evident during the implementation of specific interventions.

2.2.3 Axiology: Researcher Values and Ethical Issues

Axiology also has multiple definitions in the research literature, which include the position of the researcher's values in the research process (Teddlie and Tashakkori, 2009) and any ethical issues involved, with ethical considerations being an important part of defining the evaluation and research context (Mertens, 2009). Using a pragmatist paradigm, the values of the researcher are seen to be salient in the interpretation of results (Teddlie and Tashakkori, 2009), and can be viewed as being biased or unbiased (Creswell and Clark, 2011) depending on the approach taken at the time (for example, when drawing on the positivist paradigm, the Researcher would seen to be unbiased, when drawing on the interpretivist paradigm, the Researcher would be assumed to be biased).

In regards to ethical issues, ethical approval was received from the University of Essex and the organisation's Governance Committee, which enabled the Researcher to access the organisation and collect and analyse any quantitative or qualitative data associated with the *PCS* programme. Although the *PCS* programme was not directly manipulated by the Researcher (as staff would have taken part in the programme whether the Researcher was present or not) a consequentialist ethical approach was taken, whereby ethical decisions were guided by the extent to which the research could produce positive consequences (Wiles, 2013). Steps were taken to protect the interests of the participants, such as measures of anonymity, consent gathering and secure data storage (see Appendix D).

2.2.4 Reflexivity

It is important that reflexivity, the consideration of the Researcher's role in producing knowledge (Hollway, 2006), be considered, and so due to the nature of this subject, this section is written from the perspective of the first person. Having been 'employed' to join the *PCS* Team relatively soon after its inception, I quickly and easily identified with the aims of the programme and also the passion of the *PCS* PM to create efficiencies for the organisation. Due to the nature of my role being slightly distant from the *PCS* Co-ordinators, I had input into the organisation and the implementation of the programme, and so some of the limitations and criticisms of the implementation result partly from my contribution. Although this could be seen to bias the study, this is an accepted assumption of the study's epistemology (page 48), and by immersing myself in this role I feel that the resources I created were created with the aim of benefiting the implementation, in the same way that a Research Analyst that was not carrying out Participant Observation would have created resources. In this way I was firstly a Research Analyst helping to support the *PCS* Team, and secondly I was carrying out participant observation while doing so. These priorities could not easily have been reversed given the requirements of the role.

Oberhuber and Krzyżanowski (2008) observe that due to the complexity of organisations, research carried out within them need to implement strategies to help keep the data manageable and focused, suggesting that selection of data can be arranged around people, events, time or location. Being a Participant

Observer this was also shaped by the constraints of carrying out the participatory role. For example, during the first year the majority of my time was consumed by a large exercise in designing a tool in Excel (for Module 2, not covered within this work), meeting with staff to discuss how this tool needed to be customised, customising the tool, and then training them in how to use it. Therefore during this year the majority of observations were made during these meetings with the services' staff members, and my other interactions (team meetings, emails, informal conversations) with the *PCS* Team members. Ideally more observations of the *PCS* Team members interacting with their teams would have been made, however this was not always possible due to time constraints, which were upon me due to the deadlines I had to fulfil as part of my participatory role within the team. Similarly during the second year of implementation, my role entailed a more administrative function, whereby some formal observations were made (for example, using a video camera, see Appendix E), but the majority of observations were made while working with the *PCS* Team members. In this way, *PCS* Team members shared their experience of the implementation with me, as well as their perception of the experience of the staff members that they worked with, providing shadowed data (Morse, 2001).

2.3 Theoretical Perspective

2.3.1 Evaluation Theory

Evaluation is valuable to organisations as it enables them to reflect and learn from their experiences (Squirrell, 2012). This research adopts evaluation theory as its theoretical perspective, as it forms part of an evaluation of the *PCS* programme that took place in 2010-2012. Fink (2005) describes an evaluation to be,

> *"...the diligent investigation of a programme's characteristics and merits. In the context of health care, the purpose of programme evaluation is to provide information on the effectiveness of programmes, or interventions, so as to optimize the outcomes, efficiency and quality of health care."*
>
> (Fink, 2005, p. 4)

Although there is evidence of evaluation work since the 1660s (Weiss, 1998), evaluation research started growing in popularity in the 1960s, adopting an 'experimental' model whereby experimental and control groups would be formed, and the experimental group would be given the 'treatment' (i.e. the programme

or intervention) and pre- and post- test measures compared between groups (Pawson and Tilley, 1997). However, the problem with this approach is that it incorrectly assumes that the 'treatment' can be isolated from other factors, which makes the causation of 'success' ambiguous, and in experimental evaluations carried out, this 'success' was usually only ever partially achieved for the 'treatment' group, which often led to inconclusive findings (Pawson and Tilley, 1997). Over the last 15 years, researchers have employed 'Theory-driven-evaluation' approaches to better address the complexity of organisational systems than this experimental model (Marchal et al., 2012). 'Theory-driven evaluation' has been used to describe evaluation models focusing, "...not only on the implementation of the intervention and its effectiveness, but also on the causal mechanisms and the contextual factors that underlie change," (Chen, 1990, cited in Marchal et al., 2012, p. 193), and Realist Evaluation (Pawson and Tilley, 1997) is considered as one school within it (Marchal et al., 2012).

Realist Evaluation in its fullest form is a series of investigative cycles which starts by examining the 'Middle-range theory' of an intervention, the, "...theories that lie between the minor but necessary working hypotheses...and the all-inclusive systematic efforts to develop a unified theory that will explain all the observed uniformities of social behaviour, social organization and social change,' (Merton, 1968, cited in Pawson and Tilley, 1997, p. 123). Hypotheses are then made as to what could work, for whom and in which contexts, making observations to test those hypotheses, and then identifying from those observations what works, for whom and in which contexts (Pawson and Tilley, 1997, cited in Kazi, 2003, see Figure 3).

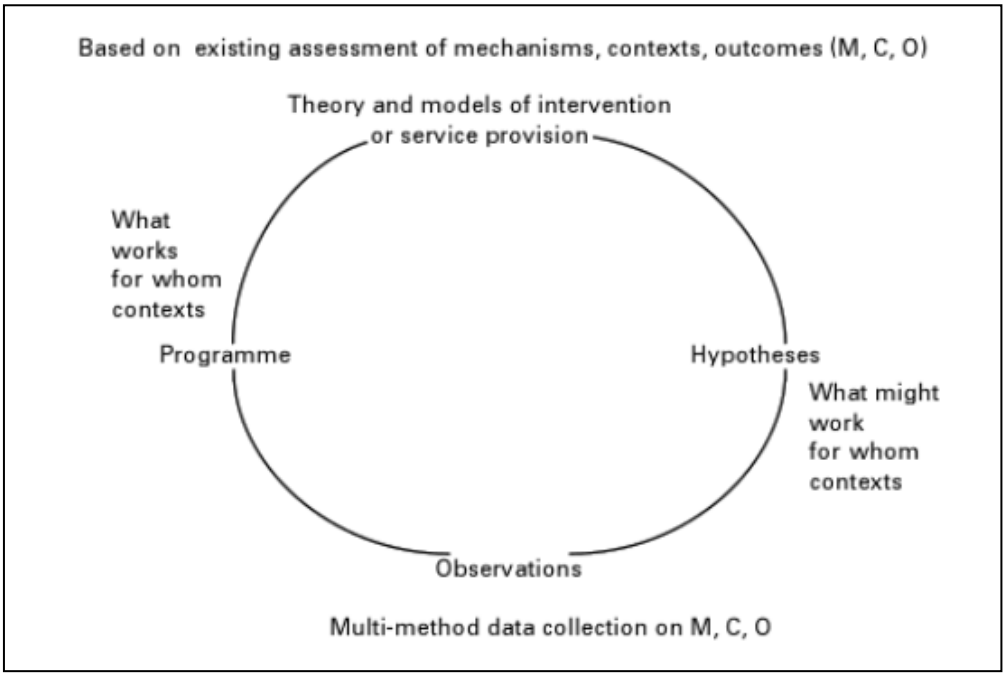


Figure 3: Realist Effectiveness Cycle, Pawson and Tilley, 1997, cited in Kazi (2003, p. 29)

Pawson (2006) notes that the mechanisms, contexts and outcomes of a programme implementation are the key sources of evidence in a Realist Evaluation. The outcomes are the consequences of a change effort , whether they be intended or unintended (Greenhalgh et al., 2009). Definitions of mechanisms among scholars vary (Goicolea et al., 2012), for instance some define them as being "hidden" requiring to be uncovered (Pawson, 2008, cited in Astbury and Leeuw, 2010), others consider them to be intervention components (for example see Tolson et al., 2007). This research uses the term Mechanisms to define explanations of the intervention's features that enable change to occur (Pawson, 2006), and where possible these are stated as components of the *PCS* programme, in addition to these components' underlying mechanisms, as this provides clarity as to which parts of the *PCS* programme were used and how they worked or did not work. Contexts have also been defined differently among different researchers (Marchal et al., 2012), with some seeing them as pre-existing conditions and relationships in the organisational system (Pawson, 2006), while others have less focus on the enduring nature of contexts but see them as, "all factors that are not part of a quality improvement intervention itself," (Øvretveit, 2011). This research adopts the latter definition, aiming to identify factors (contexts) that, according to Pawson (2006), partner with the programme's mechanisms to make success or failure of the intervention

more or less likely. This research assumes the realist perspective that, “Reality does not consist simply of experiences and actual events; rather, it is constituted by structures, powers, mechanisms and tendencies that underpin, generate or facilitate the actual events that may or may not be experienced,” (Kazi, 2003, p. 23).

In terms of explanatory power, as Realist Evaluation assumes that causal explanations are context dependent, its purpose is not to predict the results of future interventions, but to explain how outcomes were achieved through the mechanisms and contexts of the implementation, and to improve upon this explanation (Kazi, 2003). Realist Evaluation also assumes that causal explanations are not based on the regularity of outcomes, as, “What causes something to happen has nothing to do with the number of times we observe it happening,” (Sayer, 2000, cited in Pawson, 2006, p. 21). Rather, it is the patterns of outcomes that should be identified (Pawson, 2006).

Ideally the Realist Effectiveness cycle should be carried out several times within a programme’s lifespan (Marchal et al., 2012) to continually test the theories over time and improve the programme itself while it is being implemented, which can entail a great amount of resources (see Greenhalgh et al., 2009 for an example of this). This study focuses on one round of the Realist Effectiveness cycle for three different *PCS* modules, aiming to identify the contexts, mechanisms and outcomes in a ‘cumulative’ way (Pawson and Tilley, 1997) to improve explanations for future implementations, rather than making and testing improvements to the implementation itself. So this study may not be considered a ‘true’ Realist Evaluation per se, but uses the principles to offer some explanations about the processes of the implementation underlying the quantitative data, and to provide learning for future implementations.

.

2.3.2 The Programme Theory

The Programme Theory is the programme’s, “...plan of operation, the logic that connects its activities to the intended outcomes, and the rationale for why it does what it does (Rossi et al., 2004, p. 44). This is similar to the Realist Evaluation concept termed ‘Middle-range theory’ noted above (page 53), which lies

between the many hypotheses and ideas about how a programme should work, but that ultimately has a common thread running through to create a universal theory (Pawson and Tilley, 1997). The literature review explains the Programme Theory of *PCS* (see page 11), but in summary, the *PCS* programme aims to empower frontline staff to reduce waste from processes in order to release more time to spend with patients (NHSI, 2010a), by enabling staff to continually assess, improve and evaluate their working processes (NHSI, 2009f). This section will provide more detail about how this is expected to be achieved by describing the *PCS* material, which is available from NHS IQ (see Appendix F). There are nine *PCS* modules that are visually represented in the *PCS* 'house' diagram (see Figure 4).

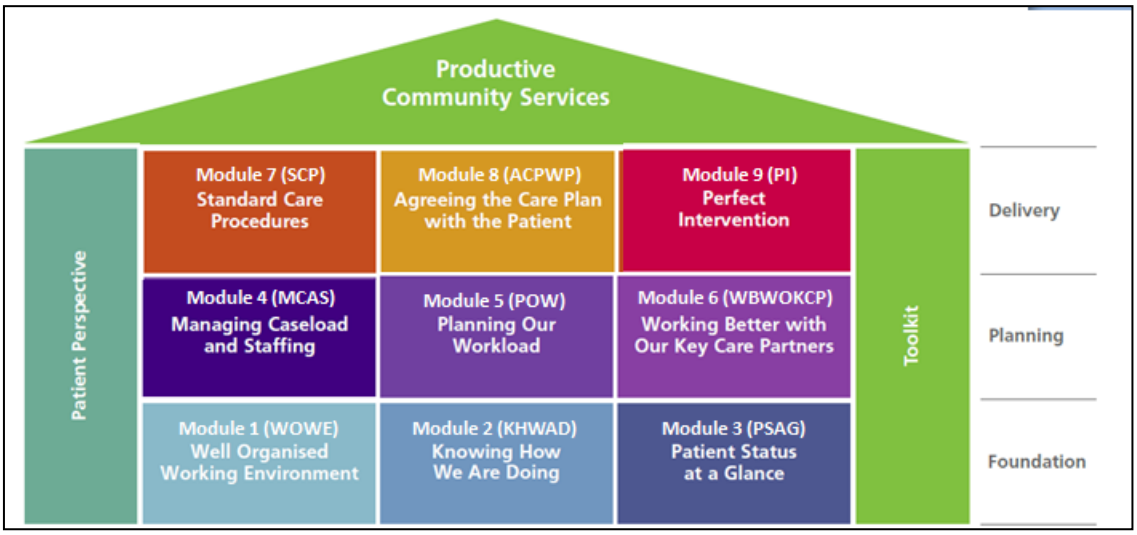


Figure 4: The 'PCS House' (NHSI, 2009f, p. 4)
NB: Module numbers and abbreviations have been added

The first three modules are considered the 'Foundation' modules; 'The Well Organised Working Environment' (WOWE); 'Knowing How We Are Doing' (KHWAD); and 'Patient Status at a Glance' (PSAG). The next three modules on the middle level are the 'Planning' modules; 'Managing Caseload And Staffing' (MCAS); 'Planning Our Workload' (POW); and 'Working Better With Our Key Care Partners' (WBWOKCP). The last three modules on the top level are the 'Delivery' modules; 'Standard Care Procedures' (SCP); 'Agreeing the Care Plan with the Patient' (ACPWP); and 'The Perfect Intervention' (PI). The 'pillar' modules of the house that support the main modules are 'Patient Perspective' (PP) and the 'Toolkit', which do not have the same structure as Modules 1-9, but are intended to be used as aids to support the work carried out in the main modules. An aspect not shown in

the house diagram is the 'Module Impact Summary' [MIS], where various impact areas (Staff Satisfaction and Wellbeing, Process Improvement, Knowledge and Skills Development, Improvement Stories and Financial Impacts) are measured through quantitative and qualitative data gathering.

The main slogan that accompanies the title of the *Productive Series* programmes is, "Releasing Time to Care™," which relates to one of the main purposes of the programme which is to reduce wasted time so that clinicians have more time to spend with patients. The authors provide information and tools to help services assess their working processes and take measurements to evidence these. They also offer guidance on how to improve these processes, and advocate a culture of regular measurement and evaluation in order to continually improve productivity, efficiency and quality. This is supported by the use of a cyclic process that structures each module, in which services should; Prepare, Assess, Plan, Treat, and Evaluate, reflecting the "basic clinical problem solving approach," (NHSI, 2009f, p. 19). The example given in Module 1 can be seen in Figure 5 below:

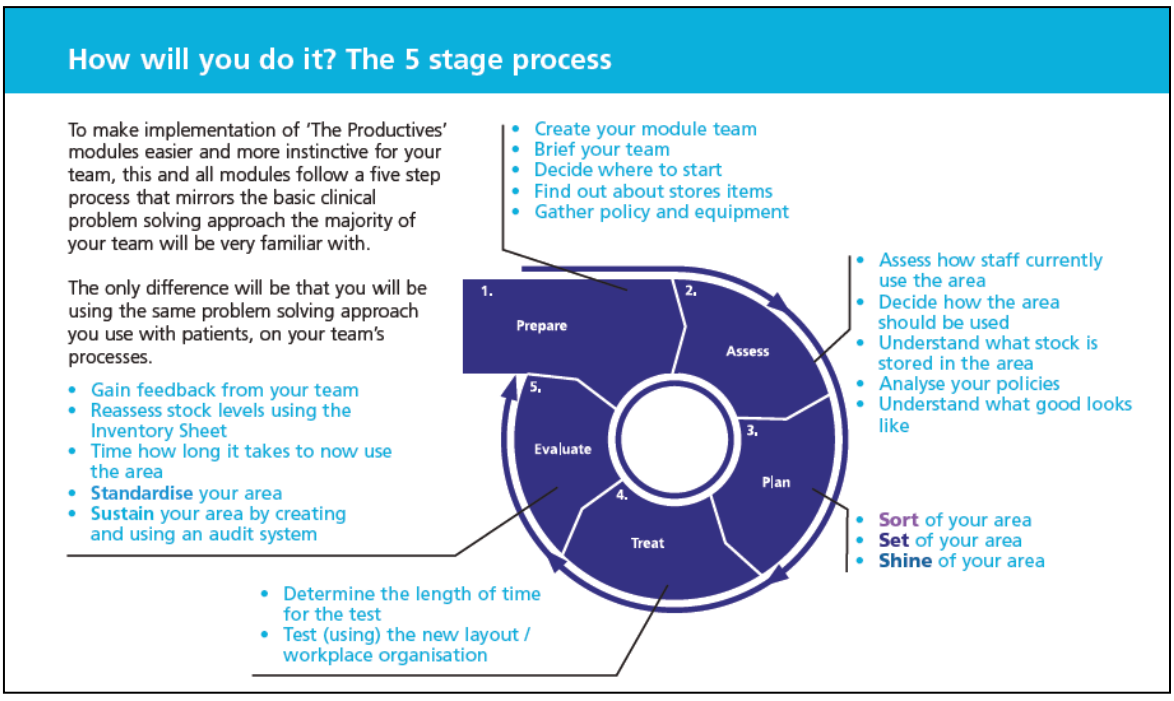


Figure 5: The 5 Stage Process (NHSI, 2009f, p. 19)

For Modules 1-8, the authors provide '10 Point Checklists' (see Figure 6 below) based on each module's standards or "characteristics," (NHSI, 2009f, p. 12), on which staff members are encouraged to record their progress at two-week intervals by colouring in the relevant boxes green or red, to denote achievement or non-achievement respectively.

10 point checklist Well Organised Working Environment	Before Starting	After 2 Weeks	After 4 Weeks	After 8 Weeks
All the items in the area have a clear purpose and reason for being there				
There are specific locations for everything				
The locations for these items are clearly marked				
It's easy to see if something is missing, in the wrong place, or needs to be re-stocked				
All the equipment is regularly maintained and kept ready-to-go				
There are standard operating procedures on the use of the area and all staff are aware of how things should be done				
Regular and random audits are conducted against the standard operating procedures to make sure the changes are maintained				
A new member of staff can easily find things and understand how things are done				
Quantities of stock are based on usage				
The replenishment of stock matches how much is used				

Figure 6: Example of a module's 10-point checklist (NHSI, 2009f, p. 13)

Best practice visits to other organisations are also encouraged in all modules in order to, "Understand what good looks like," (NHSI, 2009f, p. 40). During the implementation, module materials were available to organisations purchasing the programme in hard copy, and pdf files were accessible online for registered users (see Appendix F). Further description of the Programme Theory specifically relating to each module is provided in Chapters 4-6.

2.3.3 The PCS work employed during the Implementation

During Year 1 of the implementation (July 2010 to March 2011), the work commissioned through CQUIN involved facilitating the programme with three 'targeted' services (Admission Avoidance, District Nurses Area F and Paediatric Speech and Language Therapy), and for the first two modules to be rolled out to the rest of the clinical services within a period of approximately eight months. During Year 2 (April 2011 to March 2012), the commissioned work involved rolling out the remaining seven modules to

two services (the Assessment and Rehabilitation Unit (ARU) and Paediatric Speech and Language Therapy), and Modules 3-6 to the remaining clinical services. The specific targets set by the commissioners to achieve during the implementation can be found on page 59. Due to the relatively short amount of time available to roll out *PCS* in this way, and the availability of *PCS* materials available at the commencement of the implementation, it was decided by the *PCS* PM that the *PCS* material would be used as a framework to follow, rather than implementing all the material in its entirety. For example, it was decided that the 'Module Impact Summary' work (NHSI, 2009c) would not be rolled out as this aspect was not completed in time for the commencement of the rollout, and instead the *PCS* Team adapted their own measurement tools.

The opening sections of Chapters 4-6 describe the main exercises provided in the module material followed by the actual work that was facilitated by the *PCS* Team. In order to facilitate the programme, the *PCS* Co-ordinators were each allocated a number of teams to work with (see Table 2) and worked with relative autonomy. They had no defined mandatory requirements apart from collecting the data required for the Commissioners' targets. As part of the package purchased, a consultant from the NHSI was also available for three days during the implementation to provide the *PCS* Team with whatever support they required.

2.3.4 CQUIN Targets - Implementation Year 1: July 2010 – March 2011

As part of the CQUIN payment framework, the following targets (see Figure 7) were set, weighted in relation to the payment made to SACS if achieved (see Appendix C):

1a)	All nine *PCS* modules were to be completed by three services (Admission Avoidance, Area F District Nursing and Paediatric Speech and Language Therapy)
1b)	The first two *PCS* modules were to be completed by all the other clinical services in SACS
1c)	A reduction in stock by 30% was to be achieved by the three services completing all nine modules
1d)	A reduction in travel by 10% was to be achieved by the three services completing all nine modules
1e)	An increase in patient contact time by 10% was to be achieved for the three services completing all nine modules

Figure 7: CQUIN Targets in Implementation Year 1

2.3.5 CQUIN Targets - Implementation Year 2: April 2011 March 2012

During Year 2 of the implementation, the following CQUIN targets (see Figure 8) were set, weighted in relation to the payment made to SACS, if achieved (see Appendix C):

2a)	All remaining seven *PCS* modules were to be completed by two services (Adult Speech and Language, Assessment and Rehabilitation Unit [ARU])
2b)	Modules 3 to 6 were to be completed by the remaining clinical services (excluding services that completed all nine modules in Phase 1).
2c)	Services involved in 2a and 2b would reduce the time used looking for patient information by 10%
2d)	Services involved in 2a and 2b would have up-to-date, standardised referrals
2e)	Services involved in 2a and 2b, and who carry out more domiciliary visits than appointments in a clinic setting, would reduce their travel by 10%
2f)	'Did Not Attend' [DNA] appointment time lost will be reduced by a minimum of 3%

Figure 8: CQUIN Targets in Implementation Year 2

The chapters in this thesis report on data relating to targets 1a-c and 2a-c. Information regarding the data that was collected but not formally analysed or included in this report due to space limitations can be found in Appendix E.

2.4 Methodology

Traditionally programme evaluation was dominated by quantitative methods (aligned with the 'experimental evaluations' referred to on page 52), with qualitative methods (aligned with 'constructivist evaluations', Pawson and Tilley, 1997) becoming more popular in the 1970s (Chen, 1997). However, evaluative inquiry has since moved towards considering the advantages of using more diverse methodologies to assist with the practice and purpose of evaluation (Caracelli and Greene, 1997; Pawson and Tilley, 1997). The debate as to what counts as credible evidence continues (Mark, 2009), however by exploring the four questions posed by Datta (1997) regarding the evaluation questions that could be addressed, the resources available, any compromising effects of design and whether the results could be used, the answers led to a '*better-than'* situation, where mixed methods were seen to be the most advantageous, or even the only methodology that could have been employed. This method lends itself to

the nature of enquiry, as a programme such as *PCS* is concerned with not only the quantifiable financial or time-saving benefits achieved, but also the processes that took place to enable or restrict those benefits. As advocated by Ritchie (2003), the purpose here of collecting both qualitative and quantitative data was, "…to achieve an extended understanding that neither method alone can offer," (Ritchie, 2003, p. 43). Chapter 3 adopts a qualitative approach to address Research Question 1 and 4, in order to provide an account of the overall implementation based on staff perspectives, and Chapters 4-6 adopt a mixed-methods explanatory sequential design as defined by Creswell and Plano Clark (2007) in order to address Research Questions 2, 3 and 4. The mixed methods explanatory sequential design is usually characterised by a quantitative phase of data collection, followed by a qualitative data collection phase to offer more explanation of the phenomena behind the quantitative data (for an example of a Lean initiative reported in this way see Mazzocato et al., 2012).

2.5 Methods

2.5.1 Overview of Methods

The objective of this study was to increase knowledge about implementations of the *PCS* programme, to examine meaningfulness and reliability of the quantitative data generated during the programme, and to identify the contexts that enabled and constrained the programme's mechanisms. The term 'quantitative data' is generally used rather than 'quantitative outcomes', as although some of the quantitative data analysed can be considered outcomes (e.g. reduction of stock value), some data are single measures so may not always be considered an outcome in the sense of being a 'consequence' of the change effort (Greenhalgh et al., 2009). The study also aimed to identify the implications of these findings for healthcare managers, commissioners, and implementation teams. The diagram in Figure 9 represents the way in which the Researcher's methods were used to address the research questions, and where they can be found in the thesis.

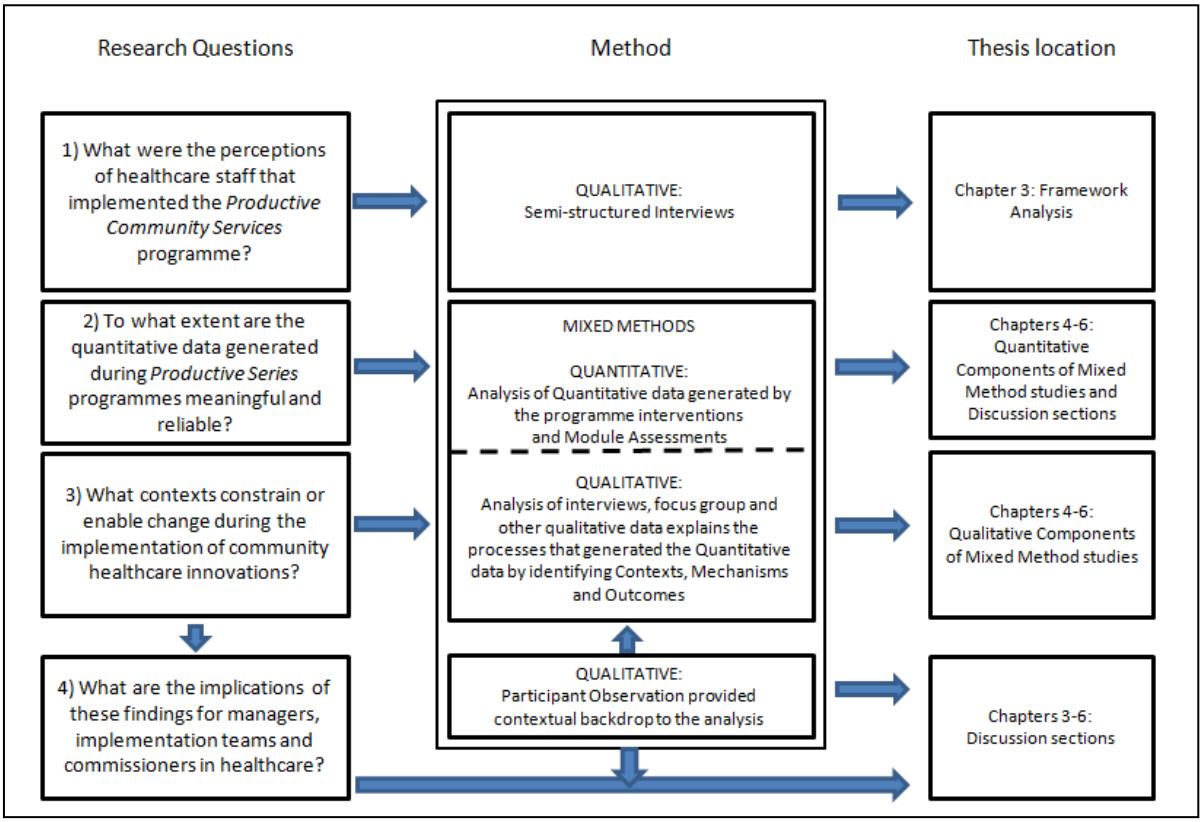


Figure 9: Methods used to address the research questions and where they are addressed

The methods designed by the Researcher to accomplish these objectives were the implementation of a participant observation, interviews, a focus group with the implementation team, and the creation of module assessments. However, the methods carried out to produce the *PCS* programme's outcomes and quantitative data were designed originally by the *PCS* programme's authors at the NHSI, and were adapted by the *PCS* Team. Further detail regarding these methods will be described in each of the relevant chapters, but to offer an example of the quantitative data collected, these included the stock value held by services (see Chapter 4), time trials of staff carrying out old versus new processes (see Chapter 5); and time and motion-type studies where staff recorded the amount of time they carried out activities (see Chapter 6). These quantitative elements of the programme contributed to supporting (or otherwise) implied hypotheses, that is, that the intervention of the programme would reduce wasted stock or reduce the time taken to carry out processes.

The outcomes of the programme consisted mainly of quantitative data. However, qualitative data was used to explain the processes that went on during the programme that led to the generation of that

quantitative data. Ritchie (2003) sees the collection of qualitative data as being divided into two broad groups; naturally occurring data and generated data. This study employed data collection methods from both of these groups. Of the naturally occurring data, participant observation (see Polgar and Thomas, 2008) was carried out. Generated data included staff responses to Module Assessments, a focus group with the *PCS* Team and the use of semi-structured individual, paired and triad interviews (Ritchie, 2003). The processes employed for these methods are detailed below.

2.5.2 Module Assessments

Module Assessments were designed by the Researcher on liaison with the *PCS* Team in order to indicate the 'completion' of modules for the CQUIN requirements (see page 59), to provide measures to indicate staff members' agreement with the modules' standards, and to indicate the efficacy of different aspects of *PCS*. During Year 1, End of Module Assessments were used towards the end of each module, however after reviewing this with the *PCS* Team in Year 2, a Beginning and End of Module Assessment was designed in order to gather baseline data and be able to form a comparison of services before and after the *PCS* work.

2.5.3 Year 1 End of Module Assessment

An example of the End of Module Assessment implemented in Year 1 can be found in Appendix G. These assessments were framed by the *PCS* material, starting firstly with a question as to whether the respondent felt that the module had been fully rolled out, and signposting them to the *PCS* PM's contact details if this was not the case. This question was included in order to be able to resolve this situation before the End of Module Assessment was completed, if possible. This question was followed by statements from the relevant module's 10-point checklist (see Appendix H). These checklist statements were slightly adapted to be relevant to the implementation where this differed to the advice given by the programme authors. For these statements, respondents could indicate 'Strongly Agree', 'Agree', 'Disagree', or 'Strongly Disagree'.

This was followed by a section of open questions based on the 'Learning Outcomes Achieved?' section in each module booklet, and were marked according to the marking framework provided (it was beyond the scope of this report to include these results, although see Appendix I for a summary and the limitations of this part of the evaluation). Respondents were then provided with six aspects of work; 'Environment', 'Working Procedures', 'Working Efficiency', 'Standard of Service', 'Team Morale' and 'Personal Morale'. They could then indicate the nearest description that matched their experience since working through the module, from the options of 'Deteriorated', 'Stayed the Same', 'Improved Noticeably', or 'Improved Greatly'. To end the Module Assessment, respondents were asked for further comments or suggestions.

2.5.3.1 Sampling Strategy and Assessment Completion Method

PCS Co-ordinators distributed the End of Module Assessments to the team leader/manager and one team member of each participating team by hand or by email. The team member was initially to be selected in a 'random' manner, however, this was problematic as some of the staff members selected had not had a large enough involvement in the module being evaluated to complete the assessment. Therefore this was changed so that the *PCS* Co-ordinators selected a team member that had been involved in the module, who was usually their main contact during the module's implementation. If 'Disagree' responses were received, where possible, members of the *PCS* Team would contact the respondents to discuss why this might be and whether anything further needed to be addressed. On some occasions where this was the case, respondents changed their response. The data reported here is based on the final response given by respondents.

2.5.4 Year 2 Beginning and End of Module Assessment

Screenshots of the Year 2 Beginning and End of Module Assessments can be found in Appendix J. Both assessments began with the statements from the relevant module's 10-point checklist. Early versions of the assessment had the same responses to the Year 1 Assessment, however 'Not Applicable' was added to later versions as *PCS* Co-ordinators reported that their services often needed this option. The assessment

then included a section to support the management of data collection, where respondents could detail their progress by recording any deadlines for the submission of data, and indicating whether data had been collected.

The description above applies to both the Beginning and End of Module Assessments, however after these sections the Assessments differed. During Year 1 the *PCS* PM felt that staff members' expectations had been outside the scope of the programme, so the Beginning of Module Assessment in Year 2 included a section which stated the different parties' expectations, in an attempt to manage them. The *PCS* Team expectations stated that the respondent and their team would familiarise themselves with the module material, that they would carry out the exercises associated with data collection and would provide the data within the agreed timeframe (see Appendix J). There was then space for the respondent or their service to state their expectations, with space alongside for the *PCS* Co-ordinator to make comment as to whether these were be able to be fulfilled. The Beginning of Module Assessment concluded with the statement, 'As *PCS* Lead for this module, I agree to participate fully in the programme and collect the data within the agreed timeframes.' A team member nominated as *PCS* Lead was then expected to enter their name and date to signal their agreement with this statement. This was usually the *PCS* Co-ordinator's main contact within the service other than the service manager.

The End of Module Assessment reiterated the original expectations and responses given in the Beginning of Module Assessment, followed by the question, 'To what extent do you agree that your expectations have been met?', to which respondents could reply, 'Strongly Agree', 'Agree', 'Disagree', or 'Strongly Disagree.' They were then asked the open-ended question 'In what ways were your expectations met, or not met?'. Similarly to the Year 1 End of Module Assessment, different aspects of the service were stated; 'Working Procedures', 'Working Efficiency', 'Standard of Service' and 'Morale'. Respondents were asked to indicate the nearest description to their experience since working through the module, from the options of, 'Deteriorated', 'Has been Maintained', 'Improved Noticeably' and 'Improved Greatly'. This was followed by two open-ended questions, asking for respondents to give examples of where time had

been saved or where other benefits of the module had been felt, and also whether they wanted to make any further comments or suggestions. The qualitative data from these comments were included in the Framework Analysis in Chapters 5 and 6.

2.5.4.1 Sampling Strategy and Assessment Completion Method

Beginning and End of Module Assessments were carried out by the team leader or manager of each team, and at least one team member that had been involved with the module work who was identified as the '*PCS* Lead'. In a different format to the Year 1 assessment, *PCS* Co-ordinators were encouraged to be present with the staff members when they completed the assessment, so that they could answer any queries that arose or explain more about the module if required. However, if due to time constraints or other reasons they could not meet in person, they emailed the assessment to staff members for them to complete on their own, or completed them over the telephone. Towards the end of the programme implementation, the Researcher, *PCS* PO and *PCS* PM also carried out End of Module Assessments with staff members in order to complete the assessments within the programme deadline. Similarly to Year 1, where respondents changed their answers after receiving further support or information from the *PCS* Team, the data in this report represents their final response.

2.5.5 Focus Group with PCS Implementation Team Members

The Researcher carried out a focus group with four members of the *PCS* Team in order to gather their views and information about their experience of the programme. The questions for the focus group were designed by the Researcher to elicit responses from the *PCS* Team regarding the experience of *PCS*, change and compliance (see Appendix L). The focus group lasted for 2 hours 3 minutes and took place towards the end of Year 2, and consisted of the *PCS* PM, *PCS* PSO and the two clinical *PCS* Co-ordinators. This data was analysed using Framework Analysis in Chapters 3-6.

2.5.6 Semi-structured Interviews with Staff Members

2.5.6.1 Recruiting participants

Purposive (n=32), snowballing (n=10) and opportunistic (n=3) sampling methods (Ritchie et al., 2003, pp. 78-81) were used to recruit 45 participants in total (see Figure 10 below).

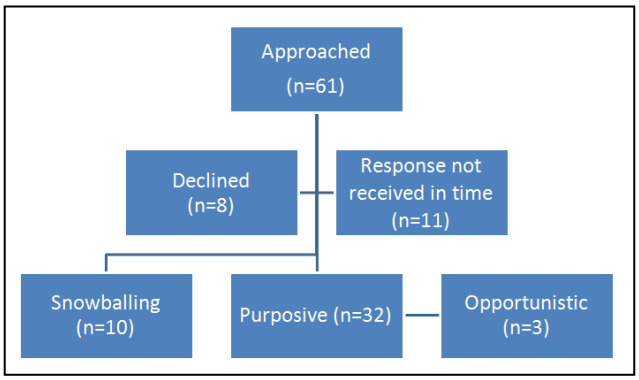


Figure 10: Breakdown of participant recruitment

In regards to a purposive method being used, participants were chosen to represent various types of staff (see Figure 11), including team members (n=28, of whom 17 carried out mainly clinical work, and 11 carried out mainly administrative work); service managers/team leaders (n=13); and senior management (n=3). One additional staff member was also interviewed who had not taken part in the programme, but was a member of the SystmOne software support team and had spent a lot of time working with the staff members who did take part during the implementation. Team members were recruited on the basis that they had carried out at least one *PCS* exercise, and were also split fairly evenly over the main operational directorates, with the exception of 'Operational Management' as only one service from this directorate took part in the programme (see Figure 11). Opportunistic sampling took place on two occasions where on arrival at the interview, the participant asked if their colleagues could join them, which produced two group interviews (n=2 and n=3, which have been included in Figure 11). Ten of the participants were recruited using a snowballing method, whereby the interviewer asked participants that had been interviewed if they could suggest staff members that might also be willing to be interviewed. This method was employed to increase the number of participants who had not met the Researcher during the implementation. Eight other potential participants declined, either giving no reason or citing a lack of

time or availability, and 11 participants did not respond within the timeframe and so were not followed up further. The Researcher had knowingly met 58% of the participants (n=26) before the interview took place.

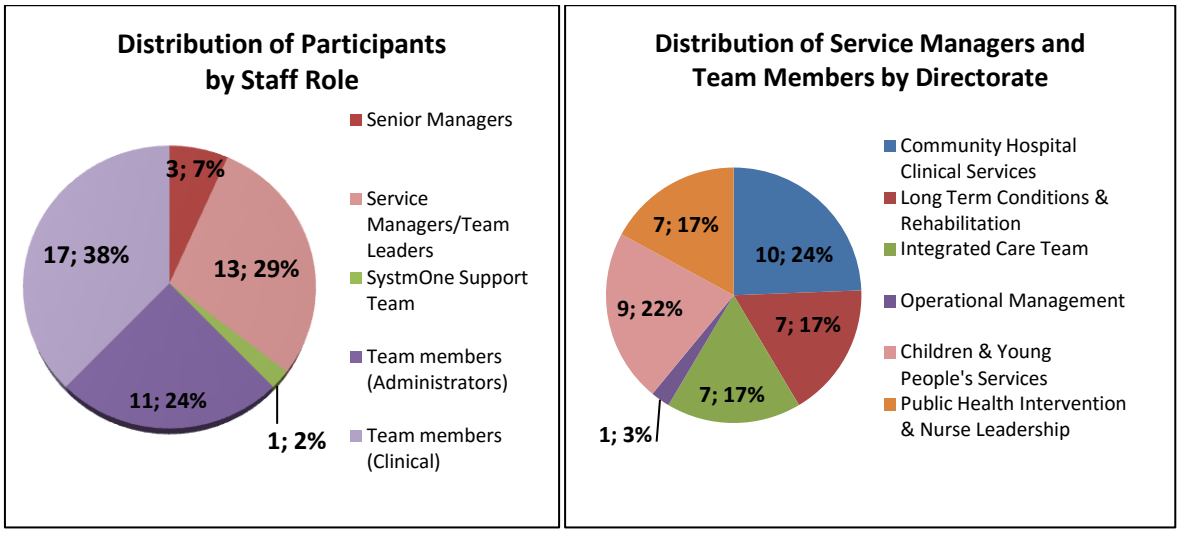


Figure 11: Distribution of participants by staff role and Directorate
NB. Data labels indicate 'n; %'

Participants were contacted by email to inform them of the topics of the interview, and to incorporate the necessary information required to adhere to the British Psychological Society Code of Ethics and Conduct, including the option to withdraw from the study, issues regarding anonymity, and that the interview would be recorded.

2.5.6.2 Interview Schedules

For the interviews with non-Senior Management, the initial interview questions regarding *PCS* were designed to draw out participants' experience of the implementation, and as advocated by King (1994), the interview schedule (Appendix M) was slightly modified during the process according to the responses of the participants. For example, as participants seemed to have less knowledge of the programme than expected, there was increasing focus on exploring how the programme had been communicated to them. Interview schedules used with Senior Management were adapted from interview schedules used by the National Nursing Research Unit and NHSI (2010b) during their work into the *Productive Ward*

programme, as the questions were more appropriate for those at senior management level, for example in regards to the decision to adopt the programme, and its appeal to the organisation (see Appendix N).

2.5.6.3 Recording and Transcribing Interviews

A dictaphone was used to record the interviews, and where consent had been received verbally rather than in writing, consent was recorded audibly before the interview commenced. Interview data were transcribed using a simplified version of Jeffersonian method (Potter and Wetherell, 1987, pp. 188-189) and guidance in Parker (1992, p. 124) (see Appendix O). Interview duration lasted on average 19:52 minutes, ranging from 5:51-45:17 minutes.

2.5.6.4 Semi-structured Interviews: Framework Analysis for Chapter 3

Framework analysis (Spencer et al., 2014a) was used to analyse the interview data as detailed above, in order to provide an overview of the perspectives of staff implementing the *PCS* programme. A semi-structured open-response interview method was used, as this fulfilled one of the three situations suggested by King (1994) to be appropriate to address the research aims of this study. In this case brief, descriptive information about the *PCS* implementation was desired where a formal hypothesis was not being tested. The Researcher firstly familiarised herself with the data by reading and re-reading the transcripts. A thematic analysis of the data using guidance from Braun and Clarke (2006) had already been carried out on the data excluding the *PCS* Team group interview (see Bradley and Griffin, 2015) , and so the majority of themes identified in that analysis were used in this Framework Analysis. However, with the addition of the *PCS* Team group interview data and a review of the data in the context of this different method, these themes were slightly amended to become the initial thematic framework for this study, which were:

- Past Experience
- The People Involved
- The Process of Implementing *PCS*
- The Impact of *PCS*
- Other factors that may have had an impact on the effectiveness of *PCS*

In the ‘Indexing and Sorting’ phase, the Researcher again read through the transcripts in NVivo and indexed the segments of text according to the themes and subthemes they referred to. After another review of the extracts within each theme and subtheme making any necessary adjustment, a framework matrix was created for each theme using NVivo. This matrix consisted of a grid with the subthemes running down the vertical rows in the first column, and the interviewee anonymised number codes running horizontally across the top row, one per column. For each extract of text, a data summary was created in the relevant cell (e.g. an extract about the subtheme ‘Relevance’ that was talked about by interviewee 011 would have been summarised and placed in the ‘Relevance’ row under column ‘011’). This enabled the data to be broken down into more manageable pieces, so that data summaries per case and data summaries per subtheme could be easily examined. The framework matrices were then exported to a Microsoft Excel spreadsheet, whereby the Researcher looked within each subtheme to capture the detected ‘elements’ (i.e. different phenomena that are being captured within each subtheme), and recorded the anonymised number code of the interviewees that had referred to these elements in a new column. Another column header was then inserted, whereby the Researcher recorded the ‘Key Dimensions’ identified from the elements. The Researcher then worked through the ‘elements’ and ‘key dimensions’ within each subtheme and created a final column in which was recorded the Category identified (see Figure 12 below). The results in Chapter 3 draw on the completed framework matrices for all themes completed in this way.

Detected Element	Key Dimensions	Categorisation
- Staff knew about PCS (024;026;028;036;042;047)	Staff were aware of PCS	Awareness of PCS
- Tried to get through project with least impact on the team (047)	Awareness of PCS not desired	Awareness of PCS
- Knew they had to do something but not always why or what for (044;045)	Awareness without understanding	Awareness of PCS
- Didn't know that exercises were part of PCS (045)	Awareness without understanding	Awareness of PCS
- Not aware of PCS or PCS intervention (029;033;042;046)	Lack of awareness of PCS	Awareness of PCS
- Prob not all staff knew about PCS (046)	Lack of awareness of PCS	Awareness of PCS
- Staff would struggle to remember what PCS was (003;009;021;028;033;045)	Struggle to recall elements/effects of the programme	Awareness of PCS
- staff would struggle to remember PCS intervention is available to use (020)	Struggle to recall elements/effects of the programme	Awareness of PCS

Figure 12: Extract from final Framework Matrix

The software programme NVivo (version 10) was used, and during analysis an attempt was made by the Researcher to be open to ideas in the text without being swayed by previous conceptions, and to remain

critical despite past affiliations with the staff and organisation. However, as, "…data are not coded in an epistemological vacuum," (Braun and Clarke, 2006, p. 84) the Participant Observation work and reading carried out previously by the Researcher is likely to have impacted, even subconsciously, on the analysis. As the process of building theory can be seen as consisting of induction, deduction and inspiration (Langley, 1999), this subjective role of the researcher can be seen as the generating the latter, and also acknowledges the interviewer's role in the construction of knowledge (Rapley, 2001). Rather than hindering or creating a positivistic 'bias', this was an essential part of the theory development.

2.5.6.5 Semi-structured Interviews and other Qualitative Data: Framework analysis for chapters 4-6

To offer explanations as to what went on during the implementation to supplement the analysis of the programme's quantitative data, qualitative data was analysed using Framework Analysis (Spencer et al., 2014a). The data corpus included the semi-structured interviews and focus group data, and for chapters 5 and 6, other textual data produced during the implementation was analysed, ranging from comments noted on the Module Assessments, to notes scrawled on the back of submitted data sheets. Their inclusion is salient as, "If we wish to understand how organisations work and how people work with/in them, then we cannot afford to ignore their various activities as readers and writers," (Atkinson and Coffey, 2004, p. 57).

For Chapters 4-6, rather than using the themes identified from the data, the principles of Realist Evaluation were used. Although the concept of Realist Evaluation was first proposed nearly 20 years ago (see Pawson and Tilley, 1997), the body of empirical work employing this theory is small and young, and there is a lack of guidance available as to exactly how it should be carried out (Marchal et al., 2012; Salter and Kothari, 2014). Therefore previous examples of Realist Evaluation work were used to guide the method. For example, Spurling et al, 2000, cited in Kazi (2003) employed the principles of Realist Evaluation in their qualitative analysis and used 'Contexts', 'Mechanisms' and 'Outcomes' (CMO) as their guiding thematic framework. The thematic analysis in the qualitative component of chapters 4-6 similarly uses the CMO configuration as the thematic framework, and uses Framework Analysis as this

method enables the analyst to, "move back and forth between different levels of abstraction without losing sight of the raw data and facilitates both cross-case and within-case analyses," (Spencer et al., 2014b, p. 283). The initial thematic framework employed Realist Evaluation principles based on the output diagrams found in Greenhalgh et al. (2009):

- Module – The Well Organised Working Environment module
    - Theme – Mechanisms
        - Subtheme – Constraining Contexts
        - Subtheme – Enabling Contexts
        - Subtheme – Disappointment Outcomes
        - Subtheme – Success Outcomes

In the 'Indexing and Sorting' phase, the Researcher again read through the transcripts in NVivo (version 10) and coded the segments of text according to the themes and subthemes they referred to. After another review of the extracts within each theme and subtheme, a framework matrix was created for each theme using NVivo. This consisted of data summaries being placed in a grid, with the subthemes listed down the first column, and the interviewee identifying numbers listed across the top row. The Researcher then looked within each subtheme to capture the detected 'elements' (i.e. different phenomena that are being captured within each subtheme), the 'Key Dimensions' of those elements, and the Category identified.

2.5.7 Participant Observation

As the *PCS* Team required support with data analysis and some aspects of implementation, the Researcher adopted an ethnographic methodology by fulfilling this role, being with and interacting with the people under study, "…participat[ing] in the routines of their everyday life," (Oberhuber and Krzyżanowski, 2008, p. 186). In regards to the Researcher's position, Gold (1958) proposed that during empirical studies, the role of the researcher is positioned along a continuum with four points. At either end of the continuum are the 'complete participant' and the 'complete observer', and towards the

participant end is the ‘participant-as-observer’ and towards the observer end is the ‘observer-as-participant’. In this piece of research, in some situations the Researcher communicated that she was observing as part of her research, to help staff members feel unconcerned about her presence thereby, “filtering the presentation,” (Fox, 2000, p. 143), but for the majority of the time she was merely the ‘participant as observer,’ (Polgar and Thomas, 2008, p. 119), making observations while carrying out the functions of her role within the team, or on post hoc reflection (Fox, 2000). This post hoc reflection was documented in a research journal, which took on two forms; ‘jots’, which recorded observations taken in the field, and a ‘diary’ which aimed to capture the thoughts and feelings of the Researcher. The observations play a supplementary role to give context, as, “…what people know about their practice, and, furthermore, what they can or want to tell about them, need not coincide with what they are actually doing,” (Oberhuber and Krzyżanowski, 2008, p. 189).

The participant observation took place between July 2010 and March 2012, over the course of 18 *PCS* Team meetings, seven meetings with individual *PCS* Team members, 98 meetings alone with service staff, and 22 meetings with service staff that were led by *PCS* Co-ordinators. This equated to a minimum of 171 hours (see Appendix K), in addition to time spent working in the office with organisational members.

2.6 Conclusion

The creation and implementation of *PCS* came at a time of economic difficulty, both for the NHS and for the wider society. However, through funding opportunities afforded by CQUIN, the organisation under study was able to resource a project team to implement the programme over a period of nearly two years. Taking a pragmatist epistemological approach which advocates the use of multiple methods appropriate to the object of study, the Researcher used the opportunity of gaining access into the organisation to collect data using methods including Participant Observation, interviews and a focus group. The interview and focus group data were analysed in two ways; firstly using Framework analysis in order to gather

perspectives of staff members who implemented *PCS.* Secondly, Framework Analysis was applied to the data in addition to other qualitative data collected during the programme using the principles of Realist Evaluation. By using these methods, this thesis aims to describe the perceptions of staff implementing the programme, to examine the meaningfulness and reliability of quantitative data generated during the implementation, and to identify the contexts that constrained or enabled the mechanisms of change. It also seeks to discuss the implications of these findings for key stakeholders in the implementation of change.

Chapter 3: Framework Analysis

3 Introduction

This chapter presents a framework analysis of a group interview with members of the *PCS* Team towards the end of the implementation (March 2012) and interviews with staff carried out after the implementation concluded (April – July 2012). The research aims of this study were to explore the perceptions of staff members and what these perceptions indicate about the implementation, in order to identify any lessons that can be learnt for healthcare staff, implementation teams and commissioners.

3.1 Method

Full details of the methods for this chapter have already been described (see page 61), but in brief, semi-structured interviews were carried out with 45 staff members whose roles included Senior Managers (n=3), Service Managers (n=13), Administrative team members (n=11), Clinical team members (n=17), and SystmOne Support Team members (n=1). The transcript from the focus group carried out with members of the *PCS* Team (n= 4) was also analysed. The focus group and interviews were recorded by dictaphone and transcribed by the Researcher, and the interview/focus group schedules used can be found in Appendices X and X. The Researcher carried out a Framework Analysis of the data based on guidance from Spencer et al. (2014a) using NVivo (version 10) software, and the thematic framework was based on a review of a thematic analysis that had previously been carried out by the Researcher (Bradley and Griffin, 2015) using guidance from Braun and Clarke (2006). The analysis reported in this chapter was carried out in order to build up a picture of staff members' experience of the implementation using the method of Framework Analysis, which was seen to be a more robust method than the thematic analysis guided by Braun and Clarke (2006), as Framework Analysis enables the analyst to, "move back and forth between different levels of abstraction without losing sight of the raw data and facilitates both cross-case and within-case analyses," (Spencer et al., 2014b, p. 283).

3.2 Results

There were five main themes identified in the data. These can be seen in Figure 13 and have been numbered for clarity rather than to indicate any hierarchy. These were; 1) Past Experience; 2) The People involved in *PCS*; 3) The Process of Implementing *PCS*; 4) The Impact of *PCS*; and 5) Other possible factors affecting *PCS*. These themes and their 33 subthemes will be described below.

3.2.1 (1) Past Experience

Many staff talked about their experience of previous innovations such as other Lean (Black and Miller, 2008) implementations and how they compared to *PCS* or how they affected their experience of *PCS*. Some explained how the issues that had arisen during *PCS* had arisen in previous implementations:

> *"...Nobody ever come back and said, you know you spend X amount of t- so we didn't know, what were the result of the audit ever was...We often find that, you know, you do these [.] things, and then nothing ever comes back...So you're never sure."*
>
> Administrative Team Member, Scheduled Therapy, 008

But *PCS* was also seen to be better in some ways than other innovations previously implemented:

> *"...She did explain to us why we were doing it and what we were doing...Having actually somebody that, physically came face to face and...O-often asked your opinion as well before they went ahead and..did something...SystmOne, they never ask anybody...before they change anything...You know, what impact it will have on you."*
>
> Administrative Team Member, Scheduled Therapy, 008

It was also noted how negative experiences encountered during previous innovations may have tainted staff member's perceptions of *PCS*:

> *"...There are people who have been in the health service for, twenty-five thirty five years you know, and they've seen all of this before, they've seen people come along and examine the way that they work and, and try to implement ...better ways of working...and I think...there is the scope for some negativity, for the PCS programme as a result of what's gone on before in the NHS, and, I wouldn't say that they [.] people g- generally, are negative about PCS [.] in isolation it's just that PCS probably is branded...with all of those other things that we've tried to do in the NHS before."*
>
> Senior Management 040

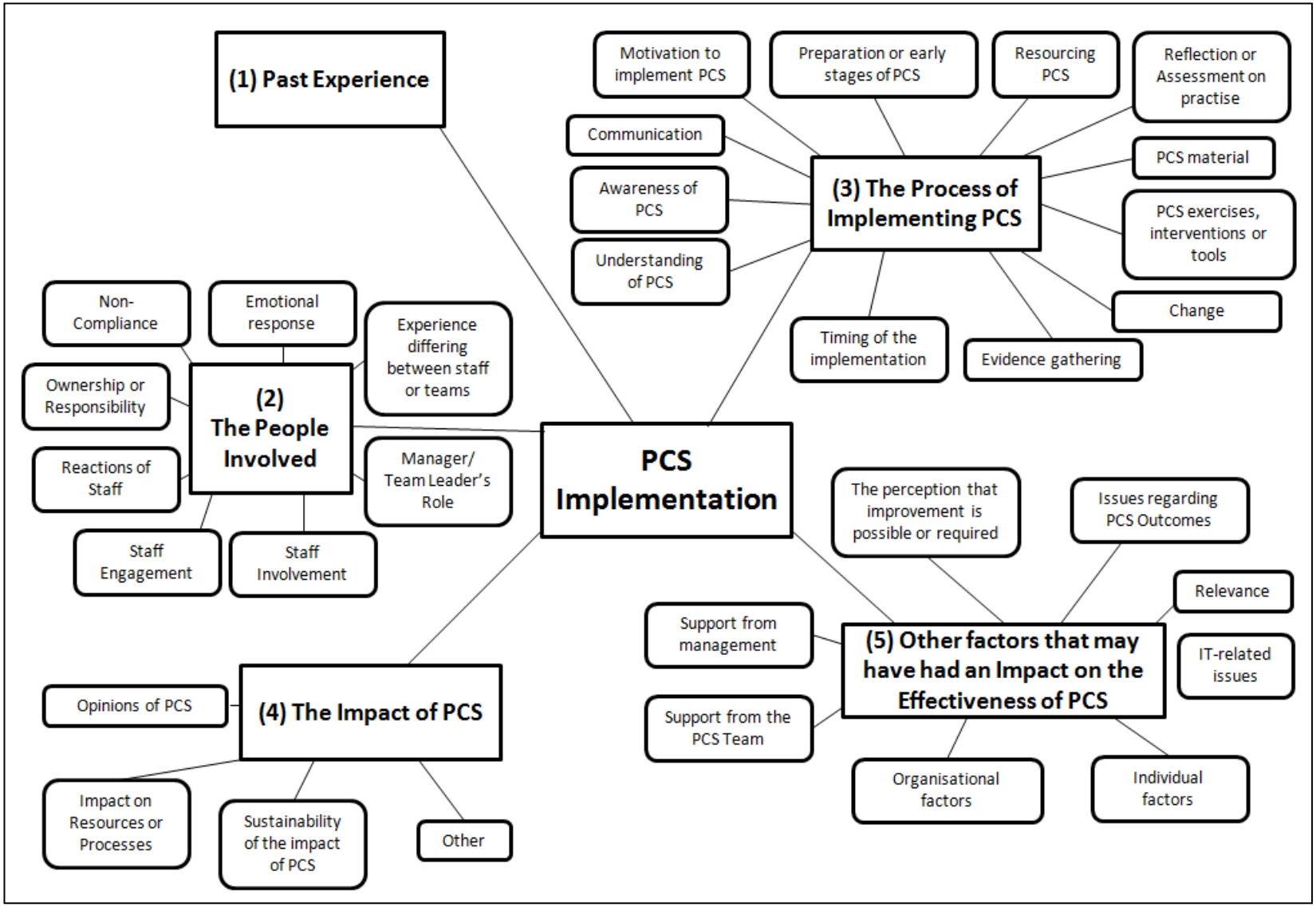


Figure 13: Themes (rectangles) and Subthemes (oblongs) identified from the Framework Analysis

3.2.2 (2) The People Involved in PCS

This theme was characterised by talk about the various people involved in the programme. It had eight subthemes (see Figure 13, page 77) which will be described in turn.

3.2.2.1 Emotional Response

Staff talked about their or their colleagues' emotional response to the programme, which perhaps was not surprising given that people can experience feelings of uncertainty and loss during organisational change (Newman, 1994) . Negative emotional responses included anxiety, stress, upset, disgust, and feeling insulted:

> *"... I felt actually was quite insulting if they thought that... I didn't know where my staff were visiting... having been a District nurse myself, for over twenty years...And done many of the routes myself...and I thought it was an obscene, waste of, of public money...And I feel very, very, very strongly about it."*
>
> Service Manager/Team Leader, District Nursing, 011

There was also the suggestion that there is general anxiety about risk to patients when streamlining efforts occur. The only reference to a positive emotional response to the programme referred to the Well Organised Working Environment module:

> *"...Clearing out [.] was quite a positive thing because we sorted stuff out...it just accumulated from when we'd moved before...so we were able to, to clear out and it did make you feel a bit better once you, cleared some of that out."*
>
> Administrative Team Member, ENT & Dermatology, 043

3.2.2.2 Experience of PCS and response to PCS differed between staff members or between teams

Staff often noted that the experience of *PCS* or approach to it differed between staff members or between teams. Many noted that there were mixed opinions towards the programme even within the same team. Others indicated reasons why different teams or staff members would have had a different experience of the programme, for instance due to different levels of involvement, difference in job role (e.g. where the manager may have known more about the programme than their team members), or their way of working:

> *"I mean you hear, that some services it changed lots of things so, perhaps they hadn't sat back but I think we're quite critical of ourselves...And we change things often we review everything every year, to see if there's anything we should do..."*
>
> Service Manager/Team Leader, Continence, 016

3.2.2.3 Non-compliance

There was some non-compliance with aspects of *PCS*, for instance where staff noted that not all parts of the programme were carried out, or where staff were not complying but gave the impression that they were:

> *"...We was told to get rid of a lot of cushions that we didn't use...Now [.] what we didn't do, was we didn't get rid of them, we just hid them... Well, I'm a taxpayer, and I...can't see the point of, getting rid of stuff...so anyway we hid them...and then, last year, when we got told we got no money...we got all these cushions out and we was able to, meet the needs of the clients, now had we have done, as they asked us to do, get rid of them...what would we have given to these clients?"*
>
> Clinical Team Member, Wheelchair Service, 036

The *PCS* Team suggested that teams may not have engaged in the programme because they were frightened of what poor processes might have been highlighted. Staff indicated other reasons for non-compliance, for example that staff didn't always take part because existing processes to collect data were not utilised, because some staff did not see the work as being their responsibility, or because there was a lack of understanding about the purpose of the programme:

> *"...There were a few things, that we got from it, but...if I could absent myself from the meetings 'cause I was busy doing other things then I did... I've spoken to people outside of this...team...And I know, my feelings are not, unique...I think it's 'cause it felt that there was, there was no purpose to it."*
>
> Clinical Team Member, Wheelchair Service, 036

3.2.2.4 Ownership or Responsibility

Staff talked about ownership or responsibility during the programme, and the need for ownership or responsibility for making improvements. One manager explained how her service didn't take ownership of the programme as well as they might have done:

> *"I think [.] we didn't try hard enough to make, an individual responsible, to take over all ownership of it...in order to, make sure ...the learnings were completely embedded... one of the excuses we're all so busy...which I know this was about helping with, but I think 'cause I was so busy perhaps I didn't give it the attention, that I should have done...so we completed the modules, we did it in a reasonably timely way...but in terms of really, learning, and maximising the potential of it I don't think we did...because we didn't give it enough attention."*
>
> Service Manager/Team Leader, Unscheduled Therapy, 037

Staff also recognised the need to take responsibility to implement elements of the programme themselves to make their own improvements:

"[PCS Co-ordinator 'D'] was ever so supportive...Well, as were you weren't you...With graphs and things and [.] but then you know that's thrown back into my hands...Or our hands to do something with...So, I think that's the, the important thing you get out of it...but you've got to put something in haven't you?"
Service Manager/Team Leader, Wheelchair Service, 004

3.2.2.5 Reactions of Staff

Staff spoke of negative reactions, positive reactions and non-reactions or feelings of indifference to the programme implementation. In terms of negative reactions, staff opposed *PCS*, 'moaned' about *PCS*, or reacted negatively because they assumed it would be a lot of work or due to difficult circumstances at the time. A member of senior management indicated that at senior management level reactions were not wholly positive towards the programme:

"...the operational representation on the senior team might have been a bit lukewarm about it, let's say [.] trying to be diplomatic about it (laughs)."
Senior Management 040

However some staff reacted positively to *PCS* and were receptive to it:

"Yeah I think we felt positively about it...I do- erm as I say, i-, I felt we had a really difficult start with it...But I think once we got going with it, then, yeah I think we all supported it."
Administrative Team Member, Safeguarding, 010

3.2.2.6 Staff Engagement

Staff talked about levels of staff engagement during the implementation, and factors that affected engagement. There were issues with staff engagement, in that it was difficult to get people engaged, engagement fluctuated along the way, and varied between staff. For those that did engage, staff engaged more once they had seen the benefits, and the *PCS* Team noted that it was easier to engage teams as time went on. In regards to the factors affecting engagement, team leaders or managers had a role in encouraging staff to engage with the programme, and it was noted that some staff members naturally engage with programmes while others do not. Staff also referred to the method of engagement being an important factor, that thought was required as to how to engage staff, that it was difficult to engage staff if they did not see the benefit in the programme. It was felt by staff that the *PCS* Team needed to have more enthusiasm to engage staff in the programme, and face to face communication between the *PCS* Team and staff helped people engage more than other methods (e.g. email or telephone) due to the opportunity

for a better understanding of the programme. On being asked what would have been the best way to have been informed about the programme, one staff member responded:

> *"...Possibly face to face...someone coming out and talking to you about it.. you get clogged down with emails sometimes...And, written pieces of pa- do you know what I mean?...when you talk to someone face to face...You get more of an idea...you get the opportunity to question and...I think if people have got a good general idea of what it's about...they would, engage better...Engage more than maybe they would if th- as you say some teams probably did it without even knowing what they were doing...Whereas I think if you've got an understanding of what it's about... it's a better experience all round."*
>
> Administrative Team Member, Safeguarding, 010

3.2.2.7 Staff Involvement

This subtheme was split into two categories; talk about the need for involvement in innovations, and talk about involvement during the implementation. Involvement in the programme was proposed to increase knowledge about it and to increase engagement. Staff involvement during the programme depended on various factors, such as whether a staff member was the main contact of the *PCS* Co-ordinator to co-ordinate or carry out the module work, which work base staff worked from, or whether the staff member was a manager or not, as some managers would have had more involvement in the programme than the team members. There was also an element of unknown involvement where staff had carried out *PCS* exercises without necessarily knowing it was for the *PCS* programme:

> *"I think quite a few people d-, probably like me, were involved in it but didn't realise it?...Does that make sense?... so from that point of view there probably wasn't, much, to say about it because they didn't realise they were doing it..stealth movement there...although the stealth thing...was quite good...like I said, got lots of things done without realising it, erm, a lot of people don't really know, what it is still."*
>
> Clinical Team Member, Scheduled Therapy, 001

Greater staff involvement also wasn't always required or desired, where managers or more senior members of staff tried to do as much of the programme as possible without having an impact on the other team members:

> *"I think we were trying to, get through the project, with the least impact on...day to day working ... as best as possible...because, that's where we were at last year...our resources were at absolute maximum stretch...and so...to been able to deliver on this project at that time...it was a case of 'Right how do we get through this.'"*
>
> Clinical Team Member, Adult Speech and Language Therapy, 047b

3.2.2.8 The Manager or Team Leader's Role

This subtheme was split into three categories; the advantage of working with managers (the *PCS* Focus Group discussed how they were used to setting aside times for meetings where as clinical staff may have had clinics booked); Management issues, and Management's role in the implementation. The management role was seen to have potential to have a positive influence on both the implementation and in looking for improvements more generally. Managers facilitated aspects of *PCS*, and it was noted that they needed to be enthusiastic about the programme in order for their team to be. However, management 'support' was also shown in merely mandating *PCS*, where the *PCS* work was carried out because managers had said it had to be done:

> *"...Our actual line manager I don't think he knew, very much about it at all...to be honest, but, 'Up there said you've got to use this so therefore you've got to do it'. It was, that sort of thing it wasn't sort of, 'Oh well, I think this is really encouraging and, therefore, if we can help you do this'...we didn't get any of that...it was like, well, they've said you've got to do it, therefore you've got to do it (laughs)."*
>
> Clinical Team Member, Wheelchair Service, 036

Management issues that arose during the implementation included difficulties for managers when working in different locations from their team, when staff reacted negatively to *PCS*, and when they had to consider how much resource they could invest in *PCS* when other priorities still needed to be met. Management issues such as management changes, and finding time for *PCS* made the implementation difficult. Managers may also have had a lack of understanding of *PCS*, where for example they didn't realise the need to disseminate information about *PCS* down to their teams, or where managers didn't know that *PCS* work was expected which meant that team members became de-motivated when their work was not being acknowledged. One administrator talked about her experience of completing the Module 2 'Knowing How We Are Doing' data sheet:

> *"In fact it gave m- us more work...because the big PCS, data sheet that I did...religiously for quite a few months, had no feedback from anybody...so [.] I didn't do it, to be honest... and nobody, no management has actually asked, where it is, what it is, or why it didn't happen...So, though...it used to take me at least an hour and a half, once a month, to try and do it all...it's not done..."*
>
> Administrative Team Member, ENT & Dermatology, 043

3.2.3 (3) The Process of Implementing PCS

There were 12 subthemes identified in this theme (see Figure 13, page 77) which related to phenomena that occurred during the process of implementing *PCS*.

3.2.3.1 Motivation to implement PCS

In regards to organisational motivation, staff talked about the financial incentives that motivated the implementation, and the need to examine motivations for implementing the programme. Although one staff member stated that they didn't feel like they were being told they had to implement the programme, for many, *PCS* was an organisational requirement – it had to be implemented:

> *"I don't think, fr-from my point of view...the exercises weren't , I don't know that they added much value...We did them because we had to, but...I've not, really seen a change."*
> Service Manager/Team Leader, Scheduled Therapy, 005

Staff felt motivated to carry out the *PCS* work by their *PCS* Co-ordinators, but there were issues in motivation, for instance it was difficult for managers to motivate their staff to take part, and the benefits or purpose – the motivation to carry out the programme work - was not always apparent. There was also talk about what motivates staff, for example staff noted that clinicians are motivated by the possibility of increasing time with patients, that staff *should* be motivated to make improvements, and that staff were motivated to implement *PCS* once they saw the benefits of it realised, or understood the potential benefits that might take place:

> *"I took over a couple of the modules that the girls struggled on...and then when they actually saw the benefits of what we were doing they came on board much, better...towards the end...when they realised it was actually going to benefit us."*
> Service Manager/Team Leader, Assessment and Rehabilitation Unit, 002

3.2.3.2 Preparation or early stages of PCS

There were three categories identified within this subtheme; Commissioner targets, Assessment of service performance and Implementation method. The *PCS* Team discussed how it was difficult to change the targets that were agreed with the Commissioners early on in the process even if they were found not to be relevant (also see the subtheme 'Relevance' in 'Other Possible Factors' on page 97). In regards to

assessment, it was noted that the implementation of *PCS* assumed that there were problems with service performance which frustrated managers, but that it was difficult to accurately assess what *PCS* work was required for services. A good understanding of services was required by the *PCS* Team. Regarding the implementation method, staff noted that it would have been helpful for staff to see the actual or potential benefits near the beginning of the programme, and for services to have linked up at the beginning and the end of the programme to share learning. There were various factors that staff suggested either should have been considered at the beginning of the *PCS* implementation, or at the beginning of similar implementations, such as how staff engagement would be achieved, how the improvements would be sustained, and there needed to be more thought as to what the intended outcome would be:

> *"...You know when y- when people introduce things they've got to say 'Well we're going to do this, and hopefully this, and the outcome will be [.] it never felt there was a...you know, how it was going to, revolutionise our day to day working...Just another piece of work to fit in."*
>
> Clinical Team Member, District Nursing, 026

3.2.3.3 Resourcing PCS

Senior management discussed how the programme was resourced financially via the commissioned targets (or "pay-for-performance", see Kristensen et al., 2013), noting that there was detailed discussion about how to resource the programme in terms of getting a *PCS* implementation team together, and that it was beneficial to have clinical staff as *PCS* Co-ordinators rather than having members of management facilitate the implementation. However other members of staff (and some of senior management) talked about the issues that there were with resourcing *PCS*, such as issues with staff resources and issues with time. The *PCS* Team felt that the way that the programme was resourced affected the success of the implementation, as commissioned targets meant that generally all services followed the same pathway which wasn't always appropriate (also see 'Relevance' on page 97). Staff members were also cynical or critical of how the programme was resourced, for instance staff felt that the implementation was a waste of resources, and noted that highly banded seconded staff members were facilitating *PCS*:

> *"...It felt like a waste of resources...I knew who the co-ordinator was and they were being seconded from their post to do this and it was like, oh that's a nice little number...It just felt like a waste of resources all this money that we're paying people to go round and...do this."*
>
> Clinical Team Member, District Nursing, 026

3.2.3.4 Timing of the implementation

The *PCS* Team focus group discussed how the *PCS* work took a lot longer than anticipated, but that timescales and deadlines were required to give the implementation structure. There were various implementation issues regarding timing. The timeframe or pace of the implementation affected staff members' experience of the programme, for instance, some staff felt it was difficult to complete within the time available, but one staff member felt it was good to be able to implement the programme over a long period of time. The *PCS* Team noted that the benefits of the programme sometimes took a few months to be seen.

> *"Six months on, team managers come back after making such a fuss about doing a piece of work and said how useful it's been...But, it's taken them six months until something's happened and then they've realised...They've needed that piece of work or they've seen over time it's made a difference, but I think a lot of what we're doing aren't instantaneous...you can't kind of, look at that, you know, just a month later."*
>
> *PCS* Project Manager, *PCS* Team Focus Group

The timing of the implementation also affected staff members' experience of the programme, for instance some staff noted how the implementation came at a good time (usually in regards to the Well Organised Working Environment and how that linked well with moving premises), or at a particularly bad time for the service, for example due to high workload, or because the service was already having to deal with many other changes.

> *"I know it's going to save you time in the long run...But it's having the time, it came at a bad time for us because we were, taking on new Wheelchair services and, everything was so so busy...I think it's well worth doing...I, personally wish I'd had more time to give to it...And at the start it was ok but as the other Wheelchair services came on board...time was, was a factor."*
>
> Service Manager/Team Leader, Wheelchair Service, 004

3.2.3.5 Communication

For some staff members, communication about *PCS* was effective, others felt it was ineffective, and some felt that communication about the impact of *PCS* (e.g. communication of the the results of *PCS* exercises) was ineffective. There was also a lack of communication reported. Staff suggested some aspects of communication that they would have desired during the implementation, for instance more feedback sessions on progress, and the need for the *PCS* Team to communicate what the *PCS* work was meant to achieve. In terms of the method of communication, for many staff the programme was talked about

during team meetings, for others, communication came via service managers, or via one or a few key contacts within the service that the *PCS* Co-ordinators liaised with. Some staff received communications via email, although emails were not always the best form of communication for the programme, for instance where clinical staff rarely read their emails as they were out visiting patients. There were various issues in communication reported. For example, the way the programme was 'sold' to staff from the *PCS* Team members was not always optimal, and the programme was presented to staff in a 'tick box' fashion:

> *"I think rather than [.] employing these expensive co-ordinators...supposedly, second them to do...this job, you, you need to...run a workshop...make it a bit more enthusiastic to see, you know, 'Right this is going to be <u>really</u> good,' you know and 'If you can do this and take this back to your teams and hopefully you know at the end of it, <u>you</u> will' and, just and then, let us, take control of it...Within our teams...rather than have this co-ordinator come out to [mimes huddled over a piece of paper] 'And then you've got to do this and then you've got to do that', you know (laughs)...there was no <u>enthusiasm</u> that's what I felt."*
>
> Clinical Team Member, District Nursing, 026

Communication was also difficult in terms of reaching all parts of the organisation, particularly where staff members often worked in isolation and didn't often have contact with other members of staff.

3.2.3.6 Awareness of PCS

This subtheme was categorised into talk about staff members' awareness of *PCS* during the implementation, and factors affecting awareness of *PCS*. Some staff struggled to recall elements or the effects of the programme, many had an awareness of *PCS*, but others had a lack of awareness, e.g. where they didn't know about *PCS* or a *PCS* intervention or felt that other staff lacked awareness of the programme. Similarly with the subtheme of 'Staff involvement', some staff inferred that awareness of *PCS* was not desired for their team as there were other priorities that needed to be met (see page 81). Some staff had an awareness of the programme without really understanding what it was:

> *"I, was aware that it was being done [.] to try and help us to, work more efficiently but not, any grander, any big idea or anything... when I, kind of bandied round the office last week 'Does anyone know anything about productive communities 'cause I've got an interview', I drew blanks from everybody apart from the administrators (laughs)."*
>
> Clinical Team Member, Healthy Living, 045

Staff working pattern was a factor that affected awareness, for example where staff were based, where staff worked and who they worked with, and the size of teams affected awareness, for instance where

members of small teams were likely to all know about it. Staff felt that that greater involvement would have increased awareness, and method of communication was seen to affect awareness, for instance, face to face contact was better for the awareness of the programme than emails. A lack of the programme's impact was also seen to affect awareness:

> *"We sort of did it as a team and, there's never been any problems, so I-I, I think everyone will probably not, really be aware of, of any impact that it's really had to be honest."*
>
> Clinical Team Member, Scheduled Therapy, 028

3.2.3.7 Understanding PCS

Some staff had a good understanding of *PCS*, others noted that there was a lack of understanding of the programme among staff, with one staff member confusing *PCS* with another intervention that was going on at the same time. Staff noted the importance of them receiving support from a facilitator who understands *PCS*, but there was a greater emphasis on 'doing' or completing elements of the programme, rather than understanding why they were being done. On being asked whether one interviewee knew the results of their 'Interruptions Audit' (Module 2), they responded:

> *"I don't...No ... as far as we were concerned we, we filled it out and sent it, back...and, weren't sure whether it was being used for, for admin purposes or...what purpose really."*
>
> Clinical Team Member, Scheduled Therapy, 044

3.2.3.8 PCS Material

The *PCS* Team focus group talked about the elements of the *PCS* material that were adapted for the implementation (e.g. creating the module assessments, adapting the material as there wasn't enough time to implement it in the form it was in, and the adaption of the *PCS* work using more electronic processes). Staff also noted that there was a need to adapt the *PCS* material to make it more bespoke to different services, and that the adapted material was easy to understand. Additional support was required to understand the *PCS* material, and *PCS* Co-ordinators were reported to have provided this support. One staff member claimed that they had read all of the material, but many staff members stated that they had never seen the original *PCS* material. Some staff felt that the *PCS* material was easy to understand, however others felt it was difficult, or that it needed to be more concise, and that there was a lot of *PCS*

material to read. Staff liked having material that was tangible that they could see in hard copy, and many noted that the material appeared to be focused on a nursing/acute model of work:

> *"...It's difficult to tell what a speech therapist looks like, because we come in all sorts of, different shapes and sizes and we don't tend to wear uniforms, but I would say that, erm [.] the material itself, as I said before, seemed to be very much slanted towards nursing services."*
>
> Clinical Team Member, Adult Speech and Language Therapy, 047b

3.2.3.9 PCS Exercises, interventions or tools

PCS exercises were noted as being easy to carry out, but not all elements of the programme were carried out. The *PCS* Team focus group noted that there were certain considerations that were required when designing the *PCS* exercises, for example requiring a certain number of timings for timed exercises to help with finding statistical significance. They also discussed how some of the *PCS* exercises started in one way but changed during the implementation according to the needs of staff. For instance, during Module 6 initially the *PCS* Team intended on measuring the time taken for staff to use the new electronic referral system, but the need for training was greater so this was arranged instead. *PCS* exercises were sometimes seen as a nuisance or weren't useful, but others noted that the *PCS* exercises came at a good time, generated improvement, or had the potential to highlight issues. There were various issues that arose regarding *PCS* exercises, for example *PCS* exercises were carried out without staff knowing why, the results of *PCS* exercises were not always fed back, and the workload for *PCS* exercises wasn't always shared across the team. One administrator noted:

> *"I think the clinicians automatically thought, that we would do it and that's it...I mean, not all of them, no I mean some of them were good and said look, I'll help you for a little while and we-we'll try and get this done... But others were, no, that's not my job, I'm not doing it, you know."*
>
> Administrative Team Member, Health Visiting, 046b

3.2.3.10 Evidence Gathering

Part of the process of the implementation involved evidence gathering. It was noted that evidence gathering didn't take too much time, that services could collect evidence themselves, but others had issues in gathering evidence, for instance finding it a lot of effort, or having issues with measurement. Evidence gathering highlighted elements of practice, or informed a change in practice for some staff. Staff found evidence gathering to be useful, and good practice was demonstrated through evidence gathering:

"...The other thing of course is, was the patient feedback... we knew that we ran a good service, and people would say 'How do you know that' and we just used to say...'I don't know they just say', so then, it took us from that, to actually saying, 'Right ok we're going to record that'...Let's audit it and just do it for three months and let's actually see it in writing and let's put it in a graph so we can see. 99% patient satisfaction...And that makes you feel [.] '(Right) that's alright but now we want 100%.'"

Clinical Team Member, Rapid Assessment Unit, 019

3.2.3.11 Reflection or Assessment on practise

The process of the *PCS* implementation entailed Reflection or Assessment on Practice. Staff felt that reflection on practice was a useful process, and that more reflection or assessment was required to determine which parts of *PCS* should have been carried out. Some staff noted that they already reflected practice regularly outside of the *PCS* programme, but others also noted that it was easy to keep working without stopping and reflecting on practice. There were various issues in assessing practice that arose during the implementation, for instance assessing practice was difficult where services constantly changed and so quick turnaround was required:

"...We constantly got new things changing all the time I think, almost as soon as we've looked at it it's then outdated...Because things keep moving keep changing...that was a snapshot then...And then, by the time it comes round again it's then changed so much again that what we're doing is probably out-dated...So I think the whole process is and turnaround needs to be a lot, quicker for it to have more of an impact?"

Clinical Team Member, Scheduled Therapy, 028

Other difficulties were that assessment was sometimes time consuming and took a lot of work to carry out, particularly if no issues were highlighted by the assessment. Staff also acknowledged that people often dislike their practice being challenged:

"...Anything that challenges the way you've been doing things, is always going to be difficult at first... because, you, get into habits...any change at all, or any challenge at all is di- is difficult for some people...[.] so I think that that can, off-put people."

Senior Management 041

3.2.3.12 Change

There were three categories within this subtheme; Attitude, Change through *PCS* and Issues with organisational change. Staff spoke about attitudes to change, for instance talking about how some people are frightened of change and how this negatively affected their approach to *PCS*. Staff also proposed that people's age or length of service made them less welcoming to change, but that change was required for progress. Members of the *PCS* Team focus group noted that one of their most important roles was to help

to change attitudes, and that they felt that they had sown the seeds of change. One staff member also noted how attitudes had changed towards SystmOne during the process. In regards to issues with organisational change, staff spoke of change being constant, of taking time, and that positive change required investment in time and resources. Staff noted issues that should be considered during organisational change efforts such as *PCS*, for instance noting that if change is required, there needs to be clear explanations as to why the change is necessary, and that the way that the change will be sustained needs to be considered. The *PCS* Team focus group also noted how change occurring through *PCS* required team to take ownership of the changes made:

> *"Change is about embedding that idea and...letting the team take ownership, and grow the idea and some things that they'll drop and some things they'll develop and, it'll be beneficial."*
>
> *PCS* Project Manager, *PCS* Team Focus Group

3.2.4 (4) The Impact of PCS

This theme had four subthemes; 'Opinions of *PCS*', 'Impact on Resources or processes'; 'Sustainability of the impact of *PCS*', and 'Other' (see Figure 13, page 77).

3.2.4.1 Opinions of PCS

Staff opinions of *PCS* varied. Some were insulted by the assumption of *PCS* that improvement was required, others felt it was 'yet another' initiative of the type that had often been seen before in healthcare, and others felt it was merely a paper exercise rather than providing a substantial benefit to staff:

> *"I thought it was an obscene, waste of, of public money...And I feel very, very, very strongly about it...Because my team in particular, have done it, purely as a paper exercise...with...no benefit whatsoever."*
>
> Service Manager/Team Leader, District Nursing, 011

Staff felt that *PCS* took a lot of time or effort. Some of the more negative opinions of the programme were that it was a waste of time and resources, it was 'onerous', a 'nuisance', a 'burden', and 'irritating'. More positive opinions were that the programme had some success, it was a good concept, it was for staff and patients' benefit, and it was 'brilliant'. There were also those who changed their opinions of the programme during the implementation:

"...It was a preconceived idea that I would find it frustrating and sort of [.] a problem but it wasn't...Really...and...when it came to sorting out the office and things like that that was actually quite a good exercise to do anyway it's amazing what you find."
Clinical Team Member, Smoking Cessation, 033

3.2.4.2 Impact on Resources or Processes

There were issues with reporting the impact of *PCS* on resources or processes, such as needing more time to see benefits, and the difficulty of quantifying the impact of the programme on services. Some were unsure how *PCS* was supposed to have an impact, and others had no expectation that there would be any impact from *PCS*:

"...As I said right at the start, there wouldn't be any changes made...Within my service...I was told, oh yes it will support you so that you will, get a central team base which of course has not happened...And is not going to happen...my team, I manage, 45 people are still, in...6 bases and I'm in the seventh...I've had a move of office, throughout this...to...a more crowded environment...so actually it has been of no benefit."
Service Manager/Team Leader, District Nursing, 011

The impact of *PCS* on resources or processes experienced during the programme had 6 key dimensions; uncertainty as to the impact of *PCS*; negative impact (e.g. as greater use of SystmOne made some processes such as making referrals take more time than they did previously); less impact than expected; little or no impact; positive impact (e.g. time saved by the PSAG screen during processes); and positive impact that was not sustained:

"...You could definitely see that things were clearer, 'cause the desks were cluttered, and the reception area, somebody had a good, look at that and a sort through and that definitely looked better...But it's not been sustained...And that's nobody's fault it's just, because of the service being so busy and...Things get put and n-not removed and...You know it's something that, you need to be on top of, all the time."
Clinical Team Member, Wheelchair Service, 027

It was noted during analysis that although some staff members reported that time was saved, there was no direct evidence from the interview data that indicated what that saved time had been reallocated to, or had enabled them to do instead.

3.2.4.3 Sustainability of the impact of PCS

Some staff felt that the improvements made would be sustained beyond the implementation, at least until other changes occurred, but at the time of the interviews (within four months after the implementation's conclusion), other staff felt that already improvements made during the implementation had not been sustained:

> *"...It was good and like, the thing with the naming the drawers and everything where you know I mean yeah that works, to a certain extent but people don't put things back in the right drawers (laughs)...So it's a bit, hit and miss."*
>
> Administrative Team Member, Assessment and Rehabilitation Unit, 015

Some staff felt that even during the implementation *PCS* work wasn't carried out effectively and so questioning the sustainability of those improvements was not relevant, and the *PCS* Team felt that more time was required to see if the impact of *PCS* would be sustained. Whether improvements were sustained also depended on all team members having the right 'mind-set' and sustaining the improved behaviours. Certain factors affected whether or not improvements would be sustained, such as whether services received further support to ensure improvements were sustained, the difficulty of sustaining improvements when there were other workload priorities, and staff turnover:

> *"I think there needs to be a lead on it..because...I was one of the main, drivers with it so I took the lead in the project and although some bits I did delegate to some of my colleagues I think myself and and [PCS Co-ordinator 'B'] who at the time...we worked together on it...but..I left my post in...November December time ...an-and nobody, carried forward those ...changes that we'd made."*
>
> Clinical Team Member, District Nursing, 042

3.2.4.4 Other

There were two dimensions within 'The Impact of *PCS*' subtheme that did not really fit into the other subthemes but were part of the phenomenon and so were assigned into this 'Other' subtheme. The first was the relativity of time savings, where two different members of staff perceived the benefit of time savings differently. One explained how even small time savings, such as removing duplication of data entry in SystmOne, would have been of benefit:

> *"...It's only little things like that...But it makes our life massively...easier...we get a couple of minutes...That makes, you know, if that saves me if I do that six times a day...That's probably six to twelve minutes..Which I could then, have time to, improve one of my juniors then they could be more effective with their patient...Which they might then save one or two follow-ups. Which then is another, two new patients."*
>
> Clinical Team Member, Scheduled Therapy, 028

However, another staff member described how there was no perceived benefit to saving time in such small quantities:

> *"I see, thirteen patients a day, half an hour each half an hour admin, that's how my day [.] pans out ...where, where else can you, you add anything in?... by changing certain things like, by organising the cupboards or, by, changing things on SystmOne or whatever, we may gain, 30 seconds in an appointment...That's [.] we can't cut appointments down by 30 seconds."*
>
> Clinical Team Member, Podiatry, 020

Both of these clinicians were from clinic-based therapy services which operated with fixed appointment sessions, so it is interesting that they took these opposing views. This is also an interesting point for future implementation teams to consider, because it suggests that improvements may need to be reframed in order to be perceived as a benefit to staff, and also that benefits, particularly in terms of time savings, need to be cumulative. Interviewee 020 is right by suggesting that an extra 30 seconds of time wouldn't make that much difference to an appointment, but if many time savings were made by addressing different areas of practice, then cumulatively this time saving might genuinely be beneficial.

3.2.5 (5) Other Possible Factors Affecting PCS

There were eight subthemes within this theme (see Figure 13, page 77) which were identified to be factors that affected the implementation that did not fit clearly within the other four themes. These are described below.

3.2.5.1 Support from Management

As mentioned in the 'Motivation to implement *PCS*' subtheme (see page 83), for many staff members the message from management was that the programme had to be implemented as it was an organisational requirement. Although many staff reported that management were supportive of *PCS* (for instance carrying out *PCS* exercises until staff could see the benefit and joined in), some noted a lack of support from management, or they were unsure of the support from management. Management also lacked understanding of what was required for the programme, either in terms of what was expected of staff, or

of the importance of disseminating the *PCS* programme to all their team members. One administrator said of her manager:

> *"...With so many other aspects to their role and, team leaders changing it's...Probably been quite difficult for them to find the time to support it...or, yeah maybe they didn't realise the implication of, passing it out to everybody so as a bigger team...we could achieve...what needed to be done."*
>
> Administrative Team Member, Health Visiting, 017

3.2.5.2 Support from the PCS Team

Many staff reported that *PCS* Co-ordinators supported them during the implementation, although one manager felt that they didn't require as much support from the *PCS* Co-ordinator as initially thought because their team were able to get on with the programme themselves. There were issues with the support provided by the *PCS* Team, such as issues in contact with the *PCS* Co-ordinator (where for instance the *PCS* Co-ordinator missed meetings with services because they were off sick but the meetings were not reinstated), where the focus from the *PCS* Team was getting the programme 'complete' rather than making benefits for the services, and where it was felt that more support was required to help make improvements:

> *"I would say, if you're going to do it in future you need to support the clinics...to carry out the recommendations...the patient satisfaction surveys. We had...the outcomes of that, but...we didn't do anything more with it...a lot of support...actually going through the modules, but it's actually the after bit...That I felt there wasn't a lot of support."*
>
> Service Manager/Team Leader, ENT and Audiology, 024

The background of the *PCS* Team members were also referred to, for instance it was noted by senior management and the *PCS* Team that it was of benefit to have clinical staff in the *PCS* Team, and the *PCS* Team focus group members acknowledged that SystmOne was heavily intertwined with the *PCS* implementation because of the *PCS* Project Manager's previous role in the SystmOne team. Staff spoke about the need for the *PCS* Team to have a good understanding of the programme, and the *PCS* Team noted that their role was to encourage services to think about how they could make improvements themselves:

> *"I think it's about responsibility as well sometimes people are frightened...actually people aren't always want to take responsibility for a, for a change and that's why [.] part of our role I think was to try and encourage people to think about things as a team."*
>
> *PCS* Co-ordinator 'B', *PCS* Team Focus Group

3.2.5.3 Individual Factors

Staff spoke about how the differences between individuals affected their experience and attitude towards the implementation, which made it more or less difficult for some people to engage with the process. For example, interviewees suggested that some staff don't like change so wouldn't like *PCS*, that *PCS* was harder for older staff members or those with long service, and that some staff are never good at submitting data to their managers, that this wasn't just a particular issue for the implementation. Some staff members made the *PCS* process difficult, and those who had had difficult experiences in the past with innovations in healthcare may have approached *PCS* differently than those who hadn't (also reflected in the 'Past Experience' subtheme). The *PCS* Team discussed how staff members would engage with different *PCS* interventions differently because of their different personalities (see page 119 in Chapter 4 for more about this finding), and other staff members noted that some staff just generally have less interest in initiatives like *PCS* than others:

> *"I think always you'll get teams who, half the team will see, relatively low face to face contact times as a challenge and galvanise them to really look at it, others will be quite, passive and say well, that's just [this organisation's] issue, you know, I'm doing the best I can, actually it takes as long as it takes and, if my contact time is this then that's what it is...so I think some staff are a bit, more kind of, well, you know, 'Interesting but...I'm not going to do anything about it.'"*
>
> Service Manager/Team Leader, Unscheduled Therapy, 037

3.2.5.4 Organisational Factors

Issues with organisational change made aspects of the implementation difficult, for example where team managers changed during the process, or where other service changes took place which made it difficult for staff to determine whether it was the service change or the *PCS* implementation that had made an improvement. Issues with organisational resources also impacted on the implementation, such as services being short-staffed, being affected by staff turnover, having other workload priorities, and having inappropriate estates facilities, although one manager explained how recent staff changes had enabled greater capacity to implement programmes like *PCS*. The structure and bureaucracy of the NHS that the organisation had come from was also felt to have made it difficult to streamline and make improvements to processes. The nature of teams, for example in terms of size or location impacted the implementation negatively, for instance some teams felt that they had not realised much benefit as they were a small team,

and that the implementation was difficult for those staff working at multiple bases or who don't spend much time in the office. Existing organisational processes weren't always taken advantage of. For example, it was suggested that the *PCS* outcomes could have been published in the organisational newspaper to help with motivation, and some staff felt frustration where existing organisational processes such as SystmOne or existing data collections had not been used for the programme:

> *"...We must, collect about three or four, different data collections..And it's another one and you just feel like saying sometimes can't you, all communicate...would we not be able to use the data that's been collected already?... but...that doesn't seem to happen...there's so much repetition...And...that's probably why the reluctance that people have to do, a lot of these projects...*
> *Or pay lip service to them."*
>
> Clinical Team Member, Community Sexual Health, 030

3.2.5.5 Issues regarding PCS Outcomes

There was a lack of knowledge regarding *PCS* outcomes amongst staff, where staff were unsure of the programme's outcomes, staff were unsure of what outcomes were expected from the programme, or were not always aware that some outcomes had been as a result of *PCS*. There was also some difficulty in measuring *PCS* outcomes, for example staff talked about how it was difficult to show that more patients were seen or money had been saved as a direct result of the implementation, or it was difficult to report the outcomes as not much had really changed:

> *"I don't know enough [.] about it to know, whether it has been a success I, I don't know what the kind of, end goals were, I'm assuming that, again things like the stock is about saving money and stuff like that, so I, I'd guess if you looked at the numbers, and that, that would point that it's been positive so in that, sense I guess it has been, a success but, I think, just, just from my point of view as a clinician it's just had such little impact, you can't really say whether it's been a success or a failure because it hasn't really changed anything."*
>
> Clinical Team Member, Scheduled Therapy, 028

For some staff, there were negative outcomes as a result of *PCS* interventions, and the *PCS* Team focus group members discussed how it was difficult to measure or quantify the benefits of the programme, particularly with other changes going on at the same time:

> *"...You've still got the issue of, we're actually trying to assess the difference we've made, assessing where teams have got better or worse and there's been structural changes and management changes...Is that because of the work we've done or is that because of, wha- there's no way of [.] telling...subjectively, we can, we can give quite an honest and open opinion on that, but actually then backing that up with metrics...is very difficult."*
>
> *PCS* Project Manager, *PCS* Team Focus Group

3.2.5.6 Relevance

The *PCS* material required adapting to be made more relevant for services, and a good understanding of service context was required for this. Although some staff felt that the programme was relevant for their service, many felt it was not relevant for some reason, for example because they had a small team, they had a small space, they had specialist staff so processes could not be generalised, or that the programme was not relevant for them due to the nature of their service, but that it might have been relevant for a different type of service. The Manager of the Scheduled Therapy service noted:

> *"I think it's...an idea conceived that I think will work probably better in acute setting or on a w- on a ward...I think for community services that, because they're so varied I think sometimes, the, the service was made to fit a hole that really... it wasn't designed to fit."*
>
> Service Manager/Team Leader, Scheduled Therapy, 005

Discussion from the *PCS* Team focus group offers some explanation behind this perceived lack of relevance. This first extract shows how the *PCS* PM found it difficult to change the targets that had been set by the commissioners initially:

> *"I actually think [.] that, obviously we've done what we've done, because that was the agreement, originally...with certain targets to roll it out over certain teams, but if we was to do it again I think I would have tried to have been more focused [.] on which services we rolled out the project to...('cause) I kind of think...We've done pieces of work, and kind of, well, it really wasn't, going to show, massive changes [.] but we've kind of followed the same pathway for all services."*
>
> *PCS* Project Manager, *PCS* Team Focus Group

This second extract from one of the *PCS* Co-ordinators indicates that the *PCS* Team knew that some of the work was not relevant, but had to continue anyway because of the commissioning targets set:

> *"...When they were finding, difficulty understanding...some of the stuff, we needed to get, you know what was the relevance, you say...the project has been, paid for...by the commissioners, and like with anything else they've set targets and we have to conform to those targets...it may not be targets you would have chosen as a service, may not be targets we would specifically have chosen as a, a project team but, you know they're the ones paying for the service so we have to comply by that."*
>
> *PCS* Co-ordinator 'B', *PCS* Team Focus Group

3.2.5.7 IT-related issues

Due to the use of SystmOne during the *PCS* implementation, IT-related issues were identified as having an impact on the implementation. Staff noted that there was improvement in processes due to the

improved use of SystmOne (as a result of the *PCS* implementation), but that benefits through SystmOne weren't possible for those services that used different IT systems. Staff were not always inclined towards working electronically and so for these users the implementation was more difficult. There were also issues with IT that reduced the effectiveness of the implementation, for example the process was difficult for those who were less computer-literate, and although quality was improved, the use of computers or SystmOne sometimes made processes take longer than they would have done if carried out manually. Staff also felt that IT could have been used more effectively during the implementation, for example during the 'Workload Analysis' (Module 4 reported in Chapter 6) where staff were asked to record their workload distribution using pen and paper methods:

> *"...Things like duplicating writing down when we can just print a report off SystmOne...Well, let's, let's do that...Let's not, have staff going out with pens and paper...You know we're twenty-first century we don't need pens and paper... we try to go paperless as much as possible."*
>
> Clinical Team Member, District Nursing, 026

3.2.5.8 Improvements were not possible or required

The effectiveness of the implementation was affected by the perception that improvements were either not possible or required. For example, staff perceived that improvements were not required because high standards were already being attained, or because *PCS* interventions (e.g. methods of organising caseload) were already in place. Staff perceived that improvements couldn't be made, where for example, they did not know how processes could be improved, or because they felt that circumstances were beyond their control:

> *"...Having a facilitator or a co-ordinator very nice, I'm sure she felt as frustrated as I did because we couldn't achieve...What she was probably being marked against...but it wasn't, that we wouldn't...It was because, our customers, the GPs...Said 'No we don't want that'...And in fact our patients don't want geographical working...<u>They</u> want continuity of care."*
>
> Service Manager/Team Leader, District Nursing, 011

3.3 Discussion

The purpose of this study was to explore staff members' perceptions of an implementation of the *Productive Community Services* programme, and to examine the implications of their experience for healthcare staff, implementation teams, and commissioners. Previous research on the *Productive Series*

programmes has identified a bias towards the publication of positive results (Wright and McSherry, 2013), and although there were positive outcomes reported by staff members (see page 91), many spoke about the more negative aspects of the implementation. These were not just in terms of negative outcomes (e.g. SystmOne processes taking longer, see page 99), but in terms of a lack of impact from the programme (e.g. little impact or no impact, see page 91). Much of the previous research on *Productive Series* programmes used staff members that were highly involved in or leading implementations (see page 20), and although this study required that team members had taken part in at least one exercise, this was probably the lowest level of involvement criteria that could have been used to be able to draw enough information from participants about the programme. In fact one of the staff members who fit the criteria as she had taken part in the 'Workload Analysis' for Module 4 declined to be interviewed stating:

> *"I would prefer not to be interviewed as I do not know about the PCS programme and other members of my team have not heard about it either."*
> Email correspondence from Administrative Team Member 02/05/2012, Scheduled Therapy

If members of staff that took part in a *PCS* exercise did not know about the programme (and other evidence from the interviews suggested this was the case too, see page 81), then staff that did not have any contribution towards the programme were likely not to have any knowledge of the programme at all. This suggests that the communication about the *PCS* programme did not reach all staff, but also that there was either no noticeable positive impact from the programme, or that any positive impact created during this time was not associated with *PCS*. For managers and implementation teams rolling out *PCS* or other similar programmes, this highlights that communicating information about the innovation, and about improvements made as a result of the innovation, is important to enable a fair evaluation of the programme's impact on staff.

For those staff members that did report a positive impact from the programme, such as the saving of time, it was noted during the analysis that none of them specifically reported what this saving of time had enabled them to do instead, or where else this time had been allocated. Wright and McSherry (2014) found a similar problem in their study using interviews and focus groups (see page 21). This again highlights the importance of clearly associating the programme with its resulting impact on staff, but goes

further to suggest that the impact recorded by the implementation team needs to both capture the efficiency (the time saved), and the improvement (what was done with this time saved). This should help provide a clearer picture of the relative advantage of the innovation (Greenhalgh et al., 2004; Rogers, 2003) so should increase the chances of other staff members, or on a wider scale, other organisations, adopting the innovation.

The subtheme regarding 'Relevance' was also described by Bradley and Griffin (2015) who identified a recurring pattern where different types of staff felt that the programme was not relevant to them but might have been to other types of staff, who also felt that the programme was not relevant. By including the *PCS* Team focus group in this study, this analysis suggests that this lack of perceived relevance was known to the *PCS* Team, and was attributed to the targets that had been set by the Commissioners (on liaison with the *PCS* PM and senior management) at the beginning of the implementation that could not be changed. On the one hand this suggests that Commissioners need to be flexible with targets so that if they are felt to be irrelevant for some services the targets can be adjusted, but it also questions whether some generic organisation-wide targets are appropriate for diverse organisations like Community Services. Pay-for-performance targets regarding patient outcomes are often 'risk-adjusted' to acknowledge the variation in patient case-mix (Eijkenaar, 2013). As the data from the *PCS* Team focus group suggests, a similar process is required when commissioning programmes like *PCS*. Organisational targets and implementation plans need to be reviewed for each individual service as to their relevance, as otherwise time can be wasted, improvements aren't made and staff are left disenchanted with the programme. As NHS providers are encouraged to use commissioned funding for innovations (see NHS England, 2014a), more research into this area would be beneficial.

Organisations also increasingly rely upon Information Technology (IT), and this analysis identified that IT-related issues affected the implementation, not just due to users' lack of computer literacy which has been documented in the literature (NHSu, cited in McVeigh, 2009), but also due to poor mobile reception in the field, and the increased information documented in SystmOne in comparison with paper notes

(which has also been documented in the literature, see Hippisley-Cox et al., 2003). In terms of productivity, managers in organisations need to understand the role of IT in efficiency, for example in trying to resolve issues of mobile connection and ensuring computer equipment is adequate for users. In addition, in the context of this study, the *PCS* PM had a background in IT, and so may not have fully empathised with the clinical staff who mainly perform clinical interventions and use computers very rarely. Although this also highlights the need for organisations to provide appropriate IT training for clinical staff, implementation teams need to bear in mind that if IT is used as part of an improvement innovation, staff may need a substantial amount of support in order to realise the benefits.

Previous research proposes that senior leaders' support and encouragement is the most important factor in the success of the Productive Ward (National Nursing Research Unit and NHS Institute for Innovation and Improvement, 2010b). This analysis suggested that some managers supported their staff, including using a hands-on approach to help encourage their staff to continue the work. However, there was also a perceived lack of support from management, or staff were unsure of the support from management, which indicates that although managers may have supported the programme, their support wasn't always observed by staff. As similarly proposed by White et al. (2013) and Wilson (2009), management support needs to be tangible. This analysis highlights that managers also need to be careful about how they manage the innovation message, as many staff reported that they carried out the programme because their managers had said that they 'had' to do it. Although this might be true to a certain extent (and is part of the problem in implementing a programme from the top-down which aims to be led from the bottom-up), implementation teams need to engage managers so that they can see the potential benefits of the innovation, so that rather than motivating staff to carry out the innovation work 'because they have to', they can motivate staff to carry out the innovation because it is likely to have benefit to them and their patients. Again, this can be helped by ensuring that the implementation is made relevant to managers and their teams, and that the implementation team members have the appropriate skills to engage, which was not always the case (see page 86).

The theme of 'Individual factors' acknowledges the role that individuals have in an implementation; that their attitudes and behaviours can affect the effectiveness of an implementation, such as being resistant to change. However the Quality Improvement literature suggests that the failure of initiatives is often down to issues within the organisational system rather than individuals (Pollitt, 1996; Walshe and Offen, 2001), and the wider analysis here reinforces this proposition, demonstrating the many other issues with the implementation that were also likely to affect the programme's effectiveness. Similarly, research suggests that it is not the initiative itself that affects the effectiveness of an initiative, but how the initiative is implemented in the context (Boaden et al., 2008; Kaplan et al., 2010; Powell et al., 2009). A lot of the issues identified, such as the importance of communication (Lewis et al., 2006), the importance of visible management support (Wilson, 2009) has already been highlighted in previous research, which indicates a lack of knowledge transfer (Berta et al., 2005) from the available literature to implementation teams. This suggests that future implementations might be improved by addressing these factors where possible, so that individual staff members have the greatest possible opportunity of engaging with the programme. This would mean that those who are inclined to change and improve their work are supported by the organisation and innovation to do so, which may in turn help others who are less inclined to change to challenge their thinking and behaviour. As healthcare organisations may increasingly rely on using internal implementation teams to roll out innovations in order to avoid paying external consultants, further research on knowledge transfer to implementation teams would be of benefit.

3.4 Conclusion

Interviews with 45 staff and a focus group with four members of an implementation team were carried out to explore perspectives of an implementation of *PCS*, and to look at the implications of their experience for healthcare staff, implementation teams and commissioners. Five main themes were identified in the data; Past Experience; The People Involved in *PCS*; The Process of Implementing *PCS*; The Impact of *PCS*; and Other Possible Factors Affecting *PCS*. Positive impacts of the programme included time savings and more efficient processes. Negative impacts included increased time in using the electronic patient record software, or where there was little or no impact despite the work carried out during the

implementation. However the analysis identified that there were various issues in the implementation that were likely to reduce the effectiveness of the programme, including a lack of communication about the programme, a lack of understanding about the programme, and a lack of perceived relevance. Many of the issues identified are already highlighted in the literature as being important aspects of implementations, which suggests that knowledge transfer needs to improve for implementation teams, and more research in this area would benefit healthcare organisations. Analysis of the *PCS* Team Focus Group data also identified that the lack of relevance was at least partially due to the commissioned targets being inflexible, and the way that they were implemented was not relevant to all services. Findings from this analysis suggests that if *Productive Series* implementations are funded by pay-for-performance schemes, then these targets need to be reviewed as to their relevancy for each service taking part. Future implementation teams also need to focus efforts on engaging managers, so that they can visibly and genuinely motivate their teams to take part in the process, rather than mandating their co-operation.

Contribution to knowledge in Chapter 3:

- The findings suggest that the pay-for-performance targets shape the way that the innovations are implemented, and this in turn is likely to contribute towards staff members' perceptions of the programme's relevance
- The findings indicate that communication during implementations of change in community healthcare needs to be improved, so that staff are aware of and understand the innovation, and so that there are clear links between the innovation and its resulting benefits. This should enable fairer evaluation and a greater chance of innovation spread.
- The findings suggest that where healthcare innovations such as *PCS* or Lean result in time saved for staff, efforts should be made to demonstrate how this has improved care or increased time spent with patients.
- The findings indicate that internal implementation teams require greater support and improved knowledge transfer to implement change, as the change literature already identifies many of the issues encountered.

Chapter 4: The Well Organised Working Environment

4 Introduction

The previous chapter provided a general overview of the implementation of *PCS* in SACS by examining the perspectives of healthcare staff implementing the programme. The following three chapters take a more focused approach by each concentrating on one of the nine modules implemented. They all take on a similar structure, firstly reporting on the quantitative data generated during the module implementation, followed by an analysis of qualitative data relating to the module's implementation. These chapters aims to examine the quantitative data in terms of their meaningfulness and reliability, as much of the available research on *Productive Series* programmes have been shown to be 'Anecdotal' reports (Wright and McSherry, 2013), with more focus on the headline outcomes rather than the processes behind them. They also aim to identify the contexts that enabled or constrained the mechanisms of change underlying the implementation, and discuss the implications of these findings for healthcare managers, implementation teams and commissioners. This has been done to increase our understanding of implementing change in healthcare, and to enable future adopters of innovations to be more aware of where attention needs to be focused, in order to make innovations more effective. This chapter achieves these objectives by examining an implementation of the first module, the Well Organised Working Environment (WOWE).

4.1 The Programme Theory

The central tenet of this module is to make staff members' working environments more productive. Staff are encouraged to use methods of visual management (e.g. by using symbols or colour codes to communicate the status or process required of an area within three seconds), and to assess how areas are used to enable working processes to become more efficient (NHSI, 2009f). This assessment can be carried out by the creation of 'spaghetti diagrams' (NHS Institute for Innovation and Improvement,

2009), whereby staff carry out a process in their work space while another staff member marks their movements on a floor plan. This can then be used to see whether any improvements can be made by reorganising the room layout. Processes can be timed before and after the work environment is changed to assess time savings or identify where improvement is still required. To help staff organise their workspaces, a '5S' process is employed which has been adapted from 'Lean' initiatives (e.g. Black and Miller, 2008 op cit.), which involves five stages. These are to 'Sort' the area, so that items that are not required are removed; to 'Set', ensuring everything is set in the right place; to 'Shine', to put processes in place so that equipment is ready to be used when necessary; to 'Standardise', formalising standard procedures for using the area, and to 'Sustain', to sustain the improvements made and continually look for further improvement (NHSI, 2009f, p. 18). The 10-point checklist, which demonstrates the module's characteristics (NHSI, 2009f) is in Figure 14. Further details regarding the Programme Theory can be found in NHSI (2009f).

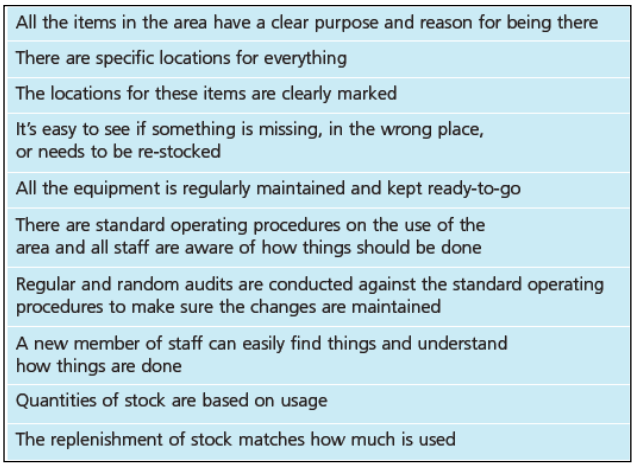


Figure 14: The Well Organised Working Environment 10 Point Checklist (NHSI, 2009f, p. 13)

4.2 The Implementation

In regards to how this module was implemented in the organisation under study, this module was to be implemented in all clinical services in the organisation under study during the first year of implementation. As part of the '5S' process and as advised by the programme authors, a stock inventory was required to be carried out by the three targeted services (Admission Avoidance, District Nursing Area F and Paediatric Speech and Language Therapy). Their target set by the Commissioners (see CQUIN

targets on page 59) was to reduce the value of the stock held by 30%. The remaining services were also encouraged to carry this exercise out where relevant. The *PCS* Team adapted the process by adding more details to the inventory sheet (see Appendix P) and by encouraging staff to set minimum and maximum stock levels to guide future stock orders and prevent over-ordering.

Another innovation borne out of this module was a 'Swap Shop' which was devised by the *PCS* Project Manager, where services were able to advertise and swap items that were wanted or unwanted. The *PCS* Team supported this by collating and communicating the items to staff by email, and arranging transport and storage for the items. For the items that were able to be reallocated to other services, approximate costs were sourced by the *PCS* PSO in order to demonstrate a saving made, as these were items that services acquired without further cost.

4.3 Method

This study adopted a mixed-methods explanatory sequential design as defined by Creswell and Plano Clark (2007). In this case the quantitative component of the study aimed to identify the quantitative data generated during the implementation of the Well Organised Working Environment module, and the qualitative component aimed to explain more about the processes behind the quantitative data by detecting the contexts that enabled or constrained the mechanisms of change. The quantitative data was generated using three main sources; the '5S' Stock Inventory, the Swap Shop and End of Module Assessments, and the qualitative data was generated using interview and focus group data. The analysis was informed by the Researcher's participant observation carried out during the implementation (see page 72).

4.3.1 Quantitative Data

The '5S' Stock Inventory quantitative analysis was based on the value of stock before the '5S' Stock Inventory took place, in comparison with the value of stock or proposed maximum stock levels (if they were set) after the '5S' Stock Inventory. 'Stock' was defined by the *PCS* Team as consumable clinical

supplies (e.g. dressings or syringes) or high-value consumable non-clinical supplies (e.g. printer cartridges). However some services also included equipment where they felt this was relevant (e.g. the Paediatric Occupational & Physiotherapy services stored walking frames which they considered to be clinical supplies). Calculations using GPower software (version 3.1.9.2) indicated that in order to detect a large effect (r=0.5) and for power (1-β) to be at least 0.80 (Cohen, 1988, 1992, cited in Field, 2005), there needed to be at least 27 samples of data. Although all teams were asked to complete the '5S' Stock Inventory, only 25 teams submitted data.

The Swap Shop quantitative data was based on the approximate costs of items that were discarded and reallocated to other services. Prices were sourced by the *PCS* Project Support Officer using internet searches. End of Module Assessments were devised by the Researcher on liaison with the *PCS* Implementation Team. The quantitative data for the End of Module Assessments was based on responses to the 10-point checklist statements provided in the WOWE material (NHSI, 2009f, see Graph 1), and responses regarding staff members 'Aspects of Work' (see Graph 2). Initially, respondents were to be randomly selected. However, the *PCS* Co-ordinators reported that respondents often did not have enough knowledge of the module to complete the assessments. This indicated that staff not directly involved in the module work did not have sufficient knowledge to be able to evaluate it. Therefore this strategy was changed so that where possible, the manager and one member of staff from each of the 38 service specialities involved in the module completed a module assessment. The organisation's data reported that there were 849 staff in the services that implemented the WOWE module, and 73 staff members (9%) completed the module assessments, representing 32 different service specialities. More details about the design of the module assessments can be found in the methods chapter (see page 63).

4.3.2 Qualitative Data

Whereas the quantitative analysis identified some of the outcomes of the module implementation, analysis of interview and focus group data was used to offer explanations as to what went during the implementation, specifically regarding the enabling and constraining contexts of change. This was the

same qualitative data used in the previous chapter, but only using the content regarding the Well Organised Working Environment module. More details about the sampling methods, interview schedules and analysis can be found on page 66-67, but in brief, the data consisted of semi-structured interviews with 45 staff members and a focus group with the *PCS* implementation team (n=4). Framework analysis (Spencer et al., 2014a) was then carried out using the principles of Realist Evaluation (Greenhalgh et al., 2009; Pawson and Tilley, 1997) as a thematic framework.

In Realist Evaluation, theories about a programme inform hypotheses, which are tested in order to identify in increasing detail, "...why a program works for whom and in what circumstances," (Pawson and Tilley, 1997, p. xvi). Pawson and Tilley (1997) propose that these hypotheses should take on a configuration of context + mechanism = outcome (CMO configurations). Therefore the following rudimentary hypothesis was proposed based on the *PCS* programme theory, with the intention that the qualitative analysis would identify a more detailed CMO configuration (Figure 15):

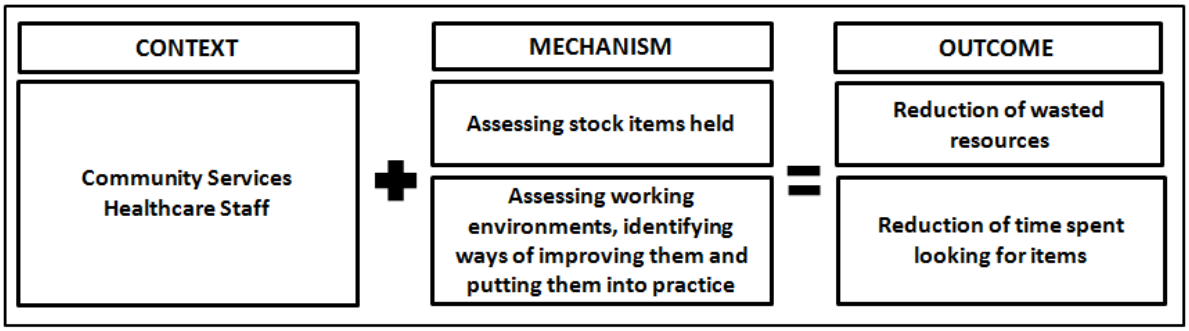


Figure 15: Predicted Context-Mechanism-Outcome configuration for the WOWE module

4.4 Quantitative Results

4.4.1 The '5S' Stock Inventory

From a quantitative perspective, the results of the '5S' Stock Inventory that were reported internally within the organisation appear to have generated a significant saving for the organisation overall and for some of its services. The results from all the teams that submitted data for this exercise are in Table 3

below. The 'Value After' was based on either the actual value of stock held after the removal of stock, or the value based on the maximum stock level held if maximum levels were set:

Service	Value Before (£)	Value After (£)	Reduction (£)	Reduction %
Rapid Assessment Unit (RAU)***	896.59	731.02	165.57	18.47
Admission Avoidance	3,953.91	2,123.10	1,830.81	46.3
District Nursing Area F	14,897.27	7,849.57	7,047.70	47.31
Paediatric Speech and Language	13,820.00	9,181.24	4,638.76	33.57
Immunisation Team	17,831.43	13,403.30	4,428.13	24.83
Wheelchair Services	113,057.20	112,811.90	245.30	0.22
Early Years Development Service	17,433.50	12,414.50	5,019.00	28.79
Children's Locality Team; Area D	38.44	33.96	4.48	11.64
District Nursing Area G	6,463.51	4,554.13	1,909.38	29.54
Children's Community Nursing#	1,345.05	772.86	572.19	42.54
Adult Speech and Language Therapy ◊	1,929.26	169.34	1,759.92	91.22
Smoking Cessation	11,080.23	9,209.00	1,871.23	16.89
Locality Team; Area F and Area G	1,637.66	853.66	784.00	47.87
Locality Team; Area S	727.16	658.56	68.60	9.43
District Nursing Area S and T	2,778.46	2,303.17	475.29	17.11
Phlebotomy	2,340.89	1,174.90	1,165.99	49.81
Scheduled Therapy	11,352.44	6,313.24	5,039.20	44.39
Unscheduled Therapy	2,784.53	936.47	1,848.06	66.37
Tissue Viability	3,401.74	2,306.17	1,095.57	32.21
District Nursing Area D6	6,915.58	6,497.83	417.75	6.04
District Nursing Area D10	3,371.24	3,171.24	200.00	5.93
District Nursing Area E	1907.99	1709.06	198.93	10.43
Podiatry	30,182.48	28,633.16	1,549.32	2.86
Paediatric Occupational Therapy and Physio ◊	105,290.49	105,103.49	187.00	0.18
Community Dental	1,561.88	1,543.58	18.30	1.17
Total	376,998.93	334,458.45	42,540.48	11.28
Mean	15,079.96	13,378.34	1,701.62	
Standard Deviation	29,258.25	29,454.06	1963.35	

Table 3: Stock values and reductions before and after the '5S' Stock Inventory
NB. Source: SACS, 2011 (Appendix B) ***RAU moved bases and increased their capacity by going from two treatment room to four treatment rooms; # Includes some expired or surplus stock that was removed just before the *PCS* work started; ◊ Includes mostly equipment.

Reductions ranged from £4.48 (Children's Locality Area D) to £5039.20 (Scheduled Therapy), with a mean saving of £1701.60 (SD=£1963.40). Percentage reductions ranged from 0.18% (Paediatric Occupational Therapy and Physiotherapy) to 91.22% (Adult Speech and Language therapy – this large percentage was due to their including equipment in the inventory and discarding much of it). An overall

reduction of 11.28% was found. As a comparison between two means was being examined (the mean value before the '5S' Inventory Check and the mean value after the '5S' Inventory check), a paired samples t-test was used. However, the data was positively skewed because the majority of stock values were towards the lower end of the range, so a Log transformation was carried out. The paired samples t-test found that the stock value reduction for these services overall was statistically significant (difference = 0.176; t=4.011; p<0.01).

The stock inventory data from just the three targeted teams can be seen in Table 4.

Service	Value Before (£)	Value After (£)	Reduction (£)	Reduction (%)
Admission Avoidance	3,953.91	2,123.10	1,830.81	46.30
Area F District Nursing	14,897.27	7,849.57	7,047.40	47.31
Paediatric Speech and Language Therapy	14,130.00	9,491.24	4,638.76	32.83
Total	32,981.18	19,463.91	13,516.97	40.98

Table 4: Stock values and savings before and after the '5S' Stock Inventory ('targeted' teams)
NB. Source: SACS, 2011 (Appendix B)

The mean stock value reduction for these three teams was 40.98% compared to the commissioners' target of 30%. A paired-samples t-test found that this reduction was statistically significant (t=2.989; p<0.05). However the data was skewed and neither a Log, Square Root nor Reciprocal transformation could transform the data to fulfil parametric assumptions. Although some researchers argue that the use of non-parametric data in parametric tests have little bearing on the results (Howell, 2013), a non-parametric test was carried out to err on the side of caution. Wilcoxon signed ranks test demonstrated that this reduction was not statistically significant (z=-1.604; p=0.055), which was a marginal finding probably due to the sample being so small. However, as the commissioning target was a reduction in stock value of 30% and was not reliant on a statistically significant reduction, this target was achieved overall for these three services.

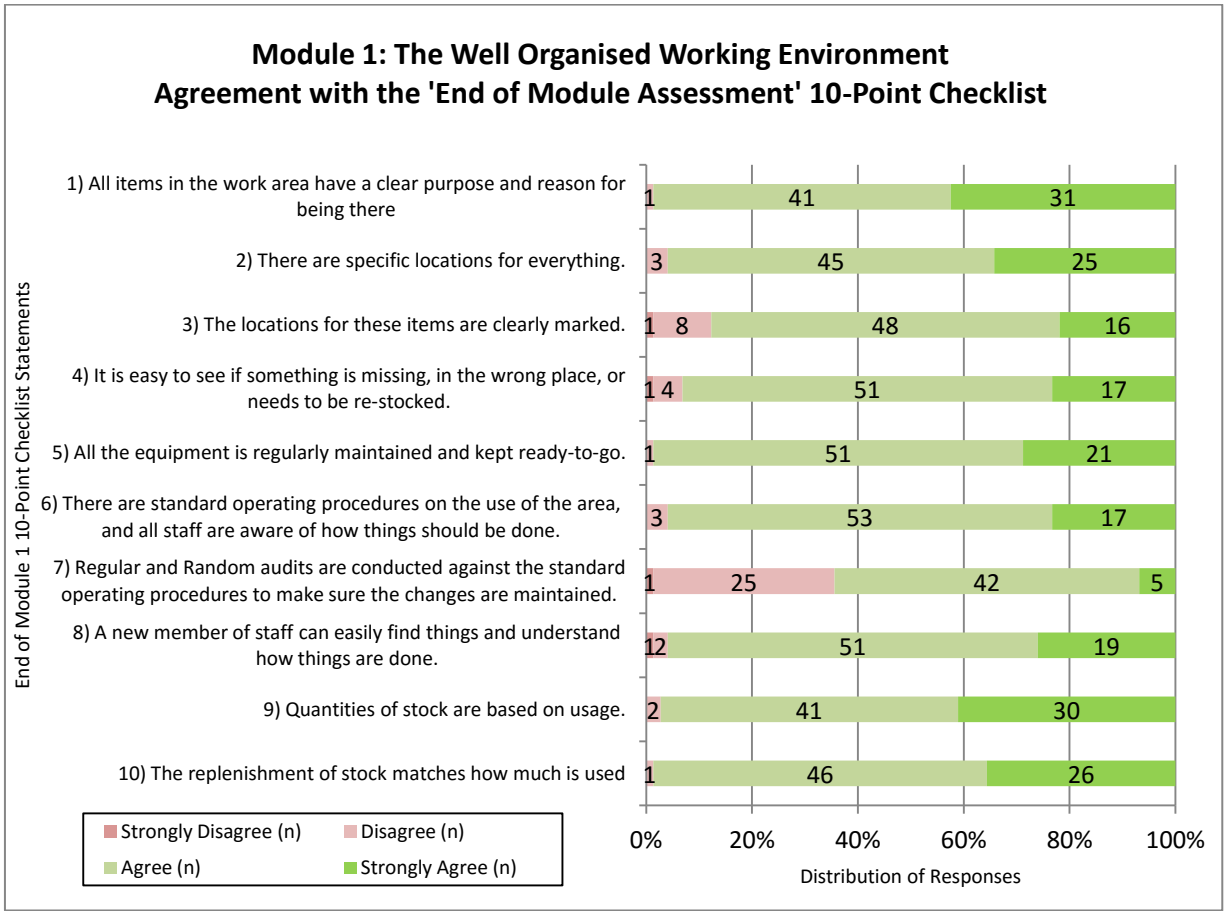
4.4.2 Swap Shop

The approximate cost (based on internet searches) of the items reallocated to other services using the Swap Shop initiative was recorded so that a saving could be calculated. During the course of the first

phase £3,622.00 was saved, and during the second phase £14,082.90 was saved, giving an approximate total saving of £17,704.90.

4.4.3 Year 1: End of Module 1 Assessment Results

Further quantitative outcomes were reported as part of the evaluation process, through staff members' completion of End of Module Assessments. Graph 1 below shows how responses were distributed in regards to the adapted 10-point check list in the End of Module 1 Assessment:

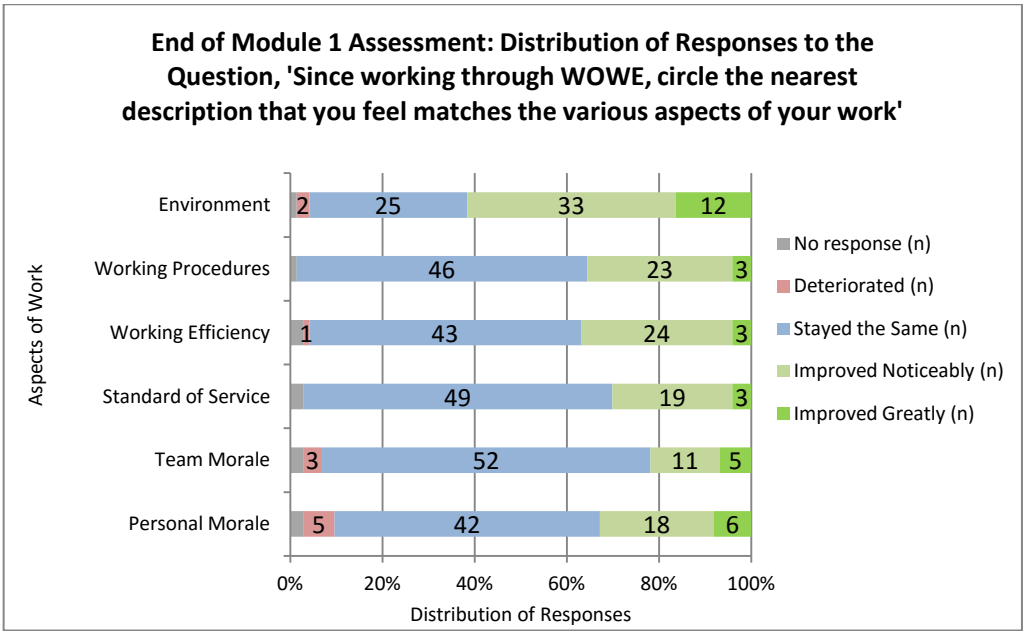


Graph 1: Year 1, Responses to the 10-Point Checklist in the End of Module 1 Assessment
NB: Note that this data differs to that submitted in SACS, 2011 (see Appendix B) as this includes data submitted after that report was published.

Statement 7 regarding audits received the most disagreement, and some of these respondents noted that it was their intention to create audits but these were not in place at the time of the assessment. However the

majority of responses indicated strong agreement that their services achieved the standards of the WOWE module.

Graph 2 below shows the quantitative results regarding respondents' 'Aspects of Work'. The majority of respondents reported that they perceived the working aspects had stayed the same since working through this module, apart from the working environment where 45 respondents (63%) reported a level of improvement (45% responding 'Improved Noticeably', 18% responding 'Improved Greatly'). This aspect was expected to receive the highest rating of improvement as this module focused particularly on the working environment.



Graph 2: Year 1, Responses relating to Aspects of Work for the End of Module 1 assessment

4.5 Qualitative Results

The quantitative results relating to the WOWE module suggested that a significant reduction in stock was made (over £42,500 through the '5S' Stock Inventory, and over £17,700 through the Swap Shop). The '5S' Stock Inventory savings for each service ranged from £4.48 to £5039.20. For each standard of the WOWE module's checklist there was over 88% agreement that the standard was being upheld, with the

exception of the use of regular and random audits for which only 64% of respondents agreed. However only 62% of respondents indicated that their environment had improved during the course of the module's implementation, with 34% of respondents (n=25) reporting that the environment had stayed the same. This indicates that although there were significant reductions in the stock value held by services, staff members' experience of the benefits of the implementation varied. This next section of qualitative analysis uses the principles of Realist evaluation to offer some explanation for what went on during the implementation, by identifying which parts of the implementation worked and did not work in terms of outcomes, for whom and under which circumstances (Greenhalgh et al., 2009).

Although the original hypotheses proposed two mechanisms of change ('Assessing stock items held' and 'Assessing working environments, identifying ways of improving them and putting them into practice,' see page 108), the framework analysis of interview text relating directly to the implementation of the WOWE module identified three specific mechanisms for change; the '5S Sort' which involved the removal of stock, clearing out the office and tidying; 'Stock Control Methods', which involved methods of stock control such as the '5S' Stock Inventory and setting stock levels, and 'Visual/Spatial Management', which involved activities like labelling shelves and reorganising the work space to help increase efficiency. There were also some contexts and outcomes identified that could not be linked to a specific mechanism, but were felt to be salient to include in the results. These are reported as relating to the 'WOWE module'. The outcomes and contexts influencing the outcomes of each mechanism will be described in turn. Figure 16 displays the contexts, mechanisms and outcomes identified, using an adapted version of a model used by Greenhalgh et al. (2009).

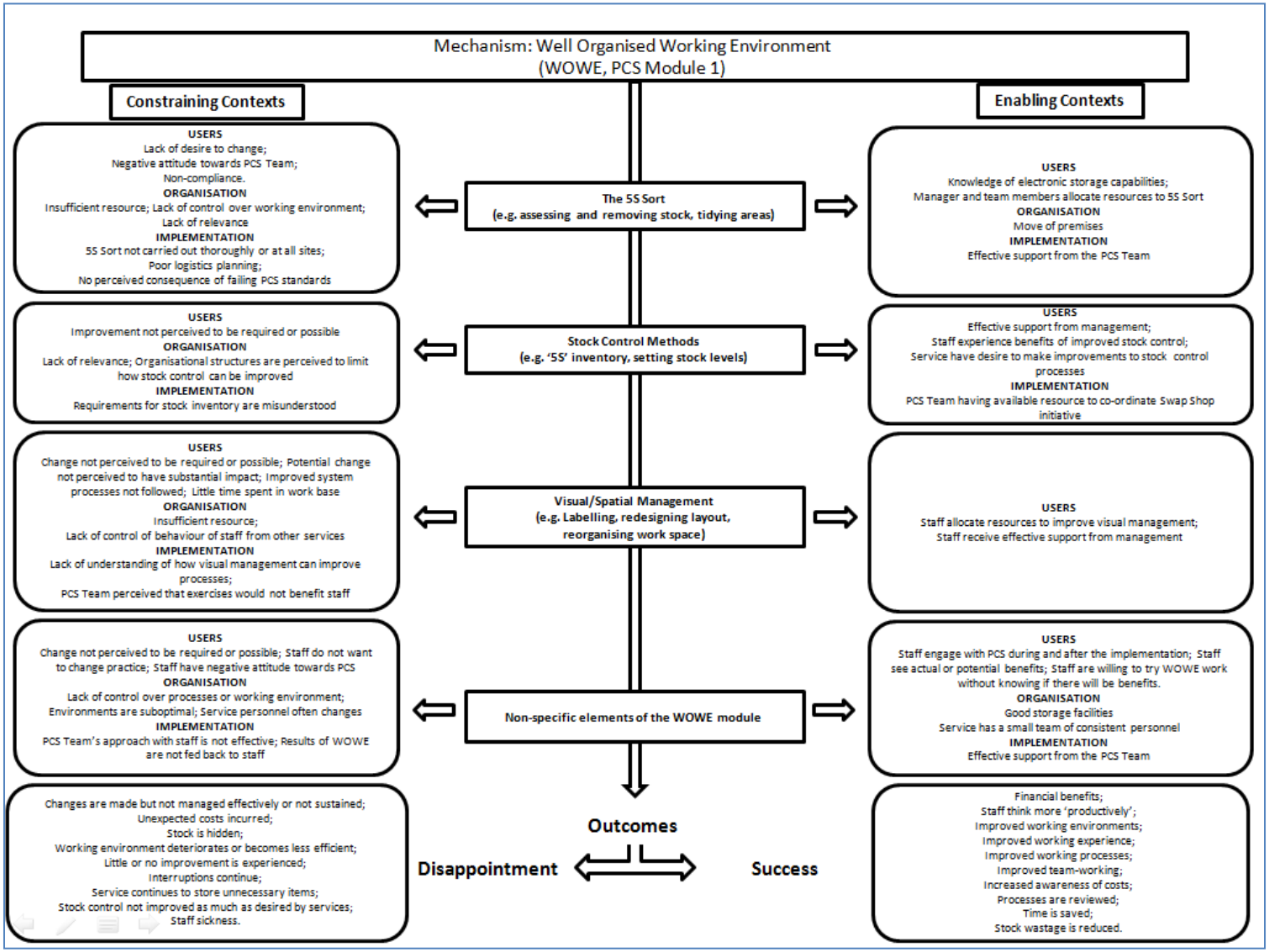


Figure 16: Contexts, Mechanisms and Outcomes of WOWE (model based on Greenhalgh et al., 2009)

4.5.1 ‘5S Sort’ as a mechanism for change

The ‘5S Sort’ mechanism was characterised by talk of staff removing stock and generally clearing or tidying their work environments. In regards to the implementation, disappointment outcomes were more likely to occur in contexts where the ‘5S Sort’ process was not carried out (e.g. where it was carried out at one site within a service but not another), or was carried out but not thoroughly so that items had not been removed when they should have been. Other constraining factors included the logistics not being in place to remove unwanted items from services immediately (resulting in the work environment deteriorating), and where there was a lack of negative consequence perceived for failing the *PCS* standards. One staff member spoke of her experience after carrying out a stock audit several months after the ‘5S Sort’ had taken place:

> *“I’m hoping that, now that we’ve done the audit, the changes will be sustained, because [.] sometimes...I think we need a bit of a kick up the backside, to realise that we’re not doing something, right...And it’s not...terrible...it’s not like...we’re not performing and we’re putting patients at danger...it’s just, a bit rubbish...but, to see it, done in a very, structured manner like in audit...that the standards that we’re wanting to be meeting, aren’t being met...It’s a very, hard hitting way of doing it, and then you’ll get...people’s, attention really and they’ll be like...they’re the acceptable standards and we’re not meeting them, definitely, that’s it, we’d better do something...Instead of [.] I think, the approach in PCS was an, obviously a lot softer...*
> *There was no real, consequence there was no one...Saying [.] ‘You’re rubbish at this’, which is sometimes I think, what you need to get some action”*
>
> Clinical Team Member, Podiatry, 020

In regards to organisational factors, disappointment outcomes were likely to occur where there was insufficient resource to carry out the ‘5S Sort’, insufficient resource to sustain the changes made, or where services had a lack of control over their working environments (for example, where they shared their space with other agencies). The removal of stock was also not relevant to all services, and this was either because not much stock was held (e.g. Children’s Localities teams, as also indicated in the quantitative data), or where stock was not perishable so it could have been more useful and cost-effective to keep in stock. This concern led to staff hiding stock rather than removing it:

> *“One particular member of our staff, when something, like this, comes along, they take it on as their baby…and therefore “Oh we must we must we must jump we must jump,” and there’s no reasoning…you know you can’t say “Well we can’t get rid of that equipment because”… “Oh well (.) up there have said we’ve got to get rid of it therefore we have to do as they say we have to bow and scrape to all that they say’…But, sorry, I don’t get rid of the stuff I just hide it.”*
>
> Clinical Team Member, Wheelchair Service, 036

Constraining contexts relating to the users of the innovation included negative attitudes towards the *PCS* Team, non-compliance with the '5S Sort', and a lack of desire to change:

> *"We still have got paper...That maybe we shouldn't have...But...a lot of it...it's [.] the way people want to work. It's really hard [.] I'm one of these people that you came in and said right we're going to do this and I'm like yeah let's go for it but you've got people in this unit who are like, 'Ooh no I don't want to do that.'"*
>
> Administrative Team Member, Assessment and Rehabilitation Unit, 015

The contexts in which success outcomes were likely to be found were where staff were in the process of moving premises to a known location, staff had knowledge of electronic storage capabilities (so that for instance, paper files could be scanned in and shredded, freeing up more space in the office), managers and team members allocated resources to carry out the '5S Sort', and effective support was received from the *PCS* Team. One team member said of her *PCS* Co-ordinator:

> *"She was brilliant...she really was...she'd come here to the office and talk us through...things...and, the day we cleared up...cleared all the clutter, actually it was two days...she came and...helped us do that an- and do it in a logical way so we weren't just, chucking stuff out for the sake of it...I think because we knew she was coming in to help we actually dedicated time to do it whereas...if I'd been left to my own devices to do it...I'd I've done an hour here an hour there, rather than devoting a whole, day and a half which is what we did."*
>
> Clinical Team Member, District Nursing, 042

4.5.2 Stock Control Methods as a mechanism for change

Stock Control Methods such as the '5S' Stock Inventory, the setting of minimum and maximum stock levels and the Swap Shop were identified as a second mechanism for change during the implementation of the WOWE module. Contexts that constrained this mechanism included those where a stock inventory was not relevant to service practice (e.g. where services held little or no stock), where stock control was not perceived to need improvement, and where requirements for the stock inventory were misunderstood (e.g. where staff thought that they had to count every folder and piece of paper which was not required). Organisational structures were also perceived to limit how stock control could be improved, which meant that potential solutions to improving stock control were identified but not implemented:

"I don't know what the answer is, really...Better storage space for the NHS...More pooling of resources as well because in our office we've got lots of boxes of envelopes and stuff and then in the office next door, they've got, the same boxes and the same....envelopes...so [.] I know it's all because we come out of, different budgets...(I understand) that, but if you could, pool that resource [.] and then instead of having, three boxes of every sort of envelope, you could narrow it down and I think that would help...by sharing resources."

Clinical Team Member, Smoking Cessation, 033

For the implementation at an organisational level, it was noted during the *PCS* Team Focus Group that the Swap Shop initiative was only able to be co-ordinated because there was resource within the *PCS* Team (through the *PCS* Project Support Officer) to do so. Service contexts that were more likely to enable success outcomes were those where effective support was received by management, where staff experienced the benefits of improved stock control, and where the service already had a desire to improve stock control processes:

"We had a stock management system which was <u>all</u> over the place...We work in...Eight different sites, with <u>limited</u> storage capacities...We had no central place to store to come in...things were being delivered and things were being lost...you know we were always running out of stuff... So it was interesting how <u>that</u> coincided with, PCS, so, it was great when we were doing that module about, stock management...Because...we were working towards that anyway...So we got a load of shelving in we got a load of boxes in we-we bought it all, in together...It's more cost-effective to have it in one place... was something we were work- striving towards and PCS come along and it was very helpful...It was really helpful for us."

Service Manager/Team Leader, Community Sexual Health, 025

4.5.3 Visual/Spatial Management as a mechanism for change

Visual/Spatial Management was the third mechanism identified in the data, which referred to staff members' efforts to improve efficiency using visual aids such as labelling shelves or redesigning the layout of work spaces. Contexts which constrained the success of this mechanism included those where change was not perceived to be required, where there was a lack of understanding as to how visual management could improve efficiency, where little time was spent in the working environment (e.g. where staff spent most of their time in patients' homes rather than at the work base), and where there was a lack of control of the behaviour of staff from other services using the workspace. Where there was insufficient resource to carry out the visual management work or to sustain the changes made, and where the potential improvement of visual management was not perceived to have a significant positive impact, were also contexts in which the likelihood of change was constrained:

"...You can't really increase our care, much more than what we do already...the majority of my time, is with, patients, I see, thirteen patients a day, half an hour each half an hour admin, that's how my day [.] pans out well, I guess we've got, fifteen minute, clean, time in the morning, and, in the afternoon, but [.] where, where else can you, you add anything in?...by changing certain things like, by organising the cupboards...we may gain, 30 seconds in an appointment...we can't cut appointments down by 30 seconds."

Clinical Team Member, Podiatry, 020

The contexts that were likely to enable improvement through Visual/Spatial Management included those where effective support was received through management, and where staff allocated resources to work on making improvements through the use of Visual Management:

"It took, obviously that took a little bit of time, but we allocated time to do it...So on a Monday morning we had a few hours because a patient was, one patient cancelled...so we said, 'Right, we're going to use this,' and we literally stripped the walls of everything...And then hardly anything went back, what went back was only uniform stuff...And what we did was as well, from that, because then we realised, that actually, every time I wanted a number if I was in here with a patient, I had to get up and go look on there, so then we thought right what numbers...would it be useful for <u>us</u> to have...we got those...That you can see on the walls...But they are <u>exactly</u> the same...Telephone numbers, they're duplicated but there're in here...it's quicker...So if I'm with a patient and I just need to phone their doctor or whatever the numbers are here."

Clinical Team Member, Rapid Assessment Unit, 019

Data from the *PCS* Team focus group also identified that at least one of the *PCS* Co-ordinators did not feel that staff would engage with exercises which helped staff assess the layout of their rooms (e.g. spaghetti diagrams), and so was unlikely to use spatial management as a mechanism with her teams:

C: *But it was like a bit where things were in stores and you had to track something on the floor about, from your desk into th- the room to collect some stores, and back out again, I mean, good Lord alive, that would've- people would have went absolutely berserk if you had made them do that*
B: *I did actually do that exercise*
C: *Oh there's, there's a surprise!*

PCS Team Focus Group, *PCS* Co-ordinators 'B' and 'C'

An aspect that may have supported the mechanism of Visual/Spatial management was the timing of processes to identify savings made by the changes. This was not talked about by any of the interviewees, but was discussed during the *PCS* Team focus group:

PM: *You don't need to time everything...'Cause i- generally, just by observing them for...A period of time you know, if there was an issue with...A piece of equipment being in the wrong place*
B: *But...you could say to the nurse, 'Do you realise that took you 6 minutes to go get a blood pressure machine?', 'oh no wonder I never have any time in the day I do that ten times a day you know...Well that's an hour...Gone, out of their day just that...just to get a blood pressure machine, and back*
PM: *Not relevant for all staff though...you wouldn't want to do that for*
B: *No...that's not no and you wouldn't...I only did it a couple of times, but it was...to more [.] show...why we want to think about moving something...'Cause this is how long it's taking you, you're telling me it's taking a long time...Well let's just time it quickly and see*

C: *...I think it depends as well on the personality of the people you're delivering it to...And the personality of the people that are delivering it. You see that, would drive me, personally mad...that somebody would expect me to do that so, perhaps that's something I...didn't really promote onto the staff to do...it's just not my, but I know that different personalities they would really like that...to me, that wouldn't appeal...*

B: *But I wouldn't, I didn't use it with the other team...It was only with the ward*

C: *But then they obviously wanted to use it*

B: *...and we didn't really record it officially...It was just to see well how long is it, you know they, they were just standing there saying 'It takes forever!', 'Oh I'll just stand here and time you'...it wasn't an official exercise... and the only other department did it it was kind of a one-off, just to see...What the benefit was going to be, but because there wasn't the time or the engagement...To actually do exercises like that...So I wouldn't say it's a tool that I used but I...did dip into it...a couple of times*

PCS Team Focus Group
PCS Co-ordinators 'B' and 'C', and the Project Manager 'PM'

This data goes some way to explain why timing processes was not used to a great extent during the implementation, as only one of the *PCS* Co-ordinators (*PCS* Co-ordinator 'B') felt that they could use these exercises, and *PCS* Co-ordinator 'C' did not feel that they would be of value to staff she supported. Similarly the *PCS* Project Manager felt that measurement was not necessarily required, and that just observing staff would ascertain whether change was required.

4.5.4 The WOWE module as a mechanism for change

During the analysis process there were some contexts identified that were not clearly linked to the specific mechanisms above, but more generally with the work carried out for the WOWE module. The constraining contexts regarding the implementation were identified where the *PCS* Team's approach with staff was not perceived to be effective, and where the results of the WOWE exercises were not fed back to staff. In regards to the users of the innovation, constraining contexts included those where staff did not want to make changes, and where staff had negative attitudes towards aspects of *PCS*. In terms of organisational contexts, these were likely to lead to disappointment outcomes where staff lacked control over changes to processes or over their working environment, where personnel frequently changed (referring to changing shift patterns rather than staff turnover), or where staff had sub-optimal working environments. Where change was not perceived to be required or possible, again this was likely to lead to improvement not taking place:

"It has been of no benefit...And a lot of the things that the PCS are trying to do we'd either done previously...For instance, getting rid of boot stock out of District Nurses cars, erm, or it was impossible to do because...we were all based in GP surgeries and the GPs, really have a lot of say over how we work"
Service Manager/Team Leader, District Nursing, 011

Enabling contexts included those where there were already good storage facilities, those that had a small team of consistent staff (e.g. without frequent changes in personnel), and where staff engaged with the *PCS* work during the implementation and after the formal implementation had concluded. Other enabling contexts were identified where staff members were willing to try *PCS* work without knowing that there would be benefits, and where staff experienced the actual benefits or saw the module's potential:

> *"I think initially obviously people were a little bit nervous but as soon as we re- got into it and realised that, actually [PCS Co-ordinator 'B'] was at the end of the phone, and she was here...nearly all the time...wasn't only [.] the theory side of it help she was very very much into the practical...Very brilliant with her camera...Taking pictures of...cluttered rooms...And cluttered boards...I think we, I think as a team we embraced it actually...And...I think we realised that, actually we could, get something out of this...this would help us wasn't here to...hinder us this was actually going to help us long term."*
>
> Clinical Team Member, Rapid Assessment Unit, 019

4.5.5 Outcomes

The disappointment outcomes for the mechanisms identified during the implementation of the WOWE module were that unexpected costs were incurred to services (e.g. where too much stock was removed and soon had to be re-ordered) and changes were made but were not managed effectively (e.g. where staff blamed the WOWE work for being low on stock). Working environment deteriorated or became less efficient due to the changes, little or no improvement was experienced, or improvements were made but were not sustained.

> *"I<u>nitially</u> the changes we had we organised the office so that we had a map and...strangers into the office knew where to find...gloves, aprons, dressings, syringes those sorts of thing...paper, pens...unfortunately that was never maintained...it's quite a small office and it becomes cluttered very quickly...the time constraints people work under they tend to come in and dump stuff...rather than clear up after them and I think you'll find that within any o- small office environment when you've got sort of fifteen-plus people trying to cram into it...because people haven't physically got time to come back and tidy up and sort out...it just got, forgotten about...like many of the...initiatives we did under, PCS you know, at the time they worked really well but they haven't been sustained."*
>
> Clinical Team Member, District Nursing, 042

Other disappointment outcomes were that unnecessary items remained in stock even after the '5S Sort', interruptions continued (e.g. from staff asking where things were kept), staff hid stock rather than removing it, and stock control was not improved as much as it could have been. Some staff felt that no changes had been made, that time had not been able to be saved by the improvements and reallocated to

patients, and staff sickness increased, where staff had reportedly injured themselves while tidying the workspace:

> *"I had three people go off sick... with this...clearing your workplace...we're all in rented offices...We're in GP surgeries, I had a bill from one of the GP surgeries because they'd actually thrown out things that didn't belong to them, however out of date they might be...And I had three members of staff who all went off sick...two with shoulder strain and one with a back problem...Following doing it so...I-it's been of no benefit...to me or my team...Whatsoever."*
>
> Service Manager/Team Leader, District Nursing, 011

The success outcomes reported were improved working experience, improved working processes, improved working environments, and time saved. Awareness of cost increased, wastage of stock was reduced, and financial benefits were reported, both by team members that had taken part and the Director of Finance for the organisation, who noted with a caveat:

> *"I go back to some of those...discussions we had about, stockholding and, what we reduced in terms of purchases because we, didn't have as much wastage and, we had less money tied up in stocks and working capital is better, absolute, clear financial benefits from that, and...things that do release cash, so that was good...I'm just not sure it worked universally across all of the areas that we looked at...and to a certain extent, you know if I went in there now, would those lessons have been learned, properly or will they still, will the stores still be in the same state?"*
>
> Senior Management 040

Processes were reviewed, teamwork improved, and staff thought more 'productively' (i.e. they had a mind-set to continue putting in place *PCS* principles):

> *"We had some fun along the way actually but, it resulted in, one big massive, de-cluttering as I call it, but it, I think initially...I was a bit thinking oh it's all going to creep back, but it hasn't done...Like you might find the odd post-it...But now you've got a mind-set and everyone hopefully is in that mind-set...because now the project's over you do have to, you know it's easy 'cause we're all busy...So you do just have to [.] sometimes check yourself...And just make sure as a team that you're still got that same ethos and the same...Sort of standards running through, but I think it's a bit like anything you do once you get into it, that actual mind-set...you're not going to, do it, any other way."*
>
> Clinical Team Member, Rapid Assessment Unit, 019

4.6 Discussion

This study firstly aimed to report the quantitative data generated during the WOWE implementation and examine their reliability and meaningfulness. Secondly, using qualitative analysis, it aimed to identify the mechanisms and contexts that contributed towards these data and other outcomes indicated by qualitative data, while considering the implications of these for healthcare staff, implementation teams and commissioners. The quantitative aspect of the study found that the '5S' Stock Inventory and Sort

generated savings for services ranging from £4 to £5039, culminating in over £42,500 (11.3% of the stock value held). The innovation of the Swap Shop saved a further £17,700. As discussed in the literature review, there were few empirical studies to compare this with, but 'Anecdotal' articles (see page 13) reported that Scottish boards and wards saved stock ranging from £700 to £3,700 (Laurent, 2013), although the overall total saved and the number of wards or boards this related to was not specified to provide a direct comparison. Smith and Rudd (2010) did not specify the stock value saved during a Well Organised Ward (WOW) implementation, however they were able to report a 28% increase in time spent on direct patient care as a result by measuring the time spent with patients before and after the WOW changes had been implemented. Although the qualitative interview data indicated that the WOWE work saved time in some contexts, the specific WOWE module's impact on patient contact time was not able to be reported using a quantitative outcome, as the only quantitative outcome for patient contact time required was based on all modules being implemented for the three targeted services (see page 59). The use of quantitative outcomes linked to specific changes to demonstrate increases in patient contact time may have helped clinical staff engage with the process more, particularly as nurses are motivated to care and help patients (Newton et al., 2009). Interview data from the *PCS* Team focus group suggests members of the implementation team felt that gathering this level of quantitative measurement was not necessary or would not appeal to staff (see page 118), which is partly why this type of outcome could not be reported for specific changes made. This suggests that implementation teams should ensure that their preconceptions about innovations and the way that staff may respond should not prevent them from trying interventions that may be of benefit.

In regards to the reliability of measuring the saving generated by the inventory exercise, this was reported to save over £42,500, however the methods used to calculate this saving should be scrutinised. The accuracy of this outcome depended on a number of factors, namely the accuracy of the product description, quantity, pricing, and the maximum or new stock level adhered to. If any of these aspects were incorrect then this would affect the calculation, and there was not enough time within the project to verify this, reducing the reliability of the figure. However, in view of these limitations, it is necessary to

acknowledge the purpose of the exercise. Although a cost saving was desired, the intentions of the exercise were to reorganise the stock system to reduce the time in finding products, to get rid of surplus or expired products, and to create an awareness of the cost implications of storing or consuming products inefficiently. From this perspective, it was arguably not necessary to spend the required time on making sure that the calculations were 100% accurate. The difficulty in locating the product prices may have explained why wastage occurred in the past, and by producing approximate prices, and by encouraging staff to document these for future products, some of the services benefitted despite these limitations.

It is important to also look at the meaningfulness of the measure. The £42,500 of items removed from stock was reported as a saving in the internal progress report, and the benefit to this cited by the *PCS* Project Manager during the programme and the Director of Finance during interview was that this reduced money tied up in stock, and so increased the amount of money released in the organisation to spend on other areas (see page 121). However, although this may have been the case for items that were returned to stores to be used by other services, much of the stock removed had expired or was discarded, and so could not be considered as a true saving. In addition, although the Swap Shop was reported internally as saving over £17,000, there were some costs associated with this saving that came out of the *PCS* Team budget that were not reported (e.g. for transport, and staff costs of the *PCS* Project Support Officer who enabled the Swap Shop to be co-ordinated). These costs need to be factored in for organisations considering this initiative either as part of a *PCS* implementation or as part of their ongoing processes.

The programme authors stress that the effective use of audits can help sustain good quality practice (NHSI, 2009f), however only 36% (n=26) respondents agreed with the standard in the module checklist which was associated with sustaining the changes made (‘Regular and Random audits are conducted against the standard operating procedures to make sure the changes are maintained’). This was the lowest level of agreement of the 10 standards and suggests that sustaining the changes made was not a priority during the implementation. The intervention that had the potential to make more meaningful savings was

the implementation of minimum and maximum stock levels, however this was not mandated (this was not suggested in the original material but was an idea from the *PCS* PM) and so only the services that implemented this benefited in this way. There were three commissioned targets that were linked with this module; that the WOWE module was to be 'completed' by the three targeted services (target 1a) and the remaining clinical services in SACS (target 1b); and a 30% reduction in stock by the three targeted services (target 1c). The 'completion' of modules was to be evidenced by a 'benefits realisation self assessment' (see Appendix C) which took the form of the module assessments, and the 'completion' standard was represented by the assessments being completed by every service, as this represented that the *PCS* module being assessed had been rolled out by the *PCS* Team to the service. However, the responses to standard 7 indicate that the majority of respondents did not carry out audits on their areas. So even though the module assessments indicated that the module had been implemented in the service, the results of the assessment were not used to gauge 'completeness' of the implementation. The result here suggests there was a lack of fidelity with the programme as certain aspects of the modules were not always implemented. For those assessing *Productive Series* programmes or similar innovations in healthcare in future, this suggests that fidelity with the programme needs to be assessed, however this will also need to address service differences, e.g. where aspects of the programme are not relevant for services. This point also highlights how both the *PCS* material and the commissioners' target of reducing stock could have been improved by being more process-oriented, so that rather than focusing on reducing the percentage of stock held before and after the '5S' Stock Inventory exercise, the implementation of minimum and maximum stock levels was mandated. Stock value could then have been tracked over a period of time to ensure that stock held did not creep up to similar levels before the programme implementation. Commissioners of similar improvement innovations should consider how their targets encourage improved practice that is sustained rather than demonstrating one-off benefits.

The quantitative data showed that there was a lot of variation between services regarding the savings made during the '5S' Stock Inventory exercise, and some variation regarding the perceived benefits reported in the End of Module Assessment. Qualitative analysis of the interview data identified some of

the factors that were likely to have contributed towards this variation, and suggest areas for focus so that future implementations can be improved. For example, a lack of resource was cited for not carrying out the '5S' work or not sustaining it, suggesting that there was little organisational slack, the resource an organisation has in addition to that needed to operate (Damanpour, 1987) to carry out the extra work entailed by the implementation. This also suggests that staff did not see the potential benefit of investing time to improve processes in the long term, and also highlights the challenge presented by organisations attempting to reduce waste or slack through programmes like *PCS* or Lean (Black and Miller, 2008 op cit.), which can also reduce the capacity for the innovation necessary to thrive (Nohria and Gulati, 1996). It was observed that the exercise was often time-consuming, and may not have been completed without a dedicated project team to support services with the task. The considerable amount of time taken was not unique to the organisation under study, as Wright et al. (2012) similarly notes that it took seven months for just their 'showcase' team to implement the same module. This suggests that managers in healthcare need to appreciate that a significant investment in staff time is likely to be required to improve and sustain more efficient working processes. Managers should therefore make every effort to put in place strategies to cope with this.

The variation of reductions and the values of the stock held by some services also suggests that a stock value reduction was not relevant for all services, and the 30% target reduction set by the commissioners was a significant reduction that may not have been beneficial for all services. Although the 30% target was only set for the three targeted services, there was no explanation in the CQUIN scheme paperwork as to why this target was chosen. This highlights the need for Commissioners and Implementation Teams to work together with services so that targets and work implemented during innovations in healthcare are relevant to staff and their services. Commissioners and implementation teams also need to be flexible enough to accept that the original intentions of an innovation may not be relevant to all types of services, and managers need to feel able to express their concerns and be heard if aspects of the innovation are not relevant to their practice, while understanding that the relevance of an improvement effort may not

always be apparent before it takes place. Therefore, keeping communication and opinions open between all parties to realistically assess the innovation's relevance is vital.

4.7 Conclusion

Quantitative analysis of an implementation of the Well Organised Working Environment found that the '5S' Stock inventory exercise reduced the stock value held by the organisation by £42,500, and a Swap Shop initiative co-ordinated by the *PCS* Team generated savings of approximately £17,700. However the accuracy of these figures is unknown as it was difficult to verify the costs of stock that informed these figures. Internally the £42,500 reduction was documented as a saving, yet in reality some of this value related to discarded or expired stock with no further use, so the total figure was not a true saving for the organisation. This indicates that caution should be taken when assessing 'Anecdotal' reports of innovations, as the outcomes reported may be lacking in meaningfulness and reliability under closer scrutiny.

Qualitative analysis was used to offer explanations as to what happened during the implementation in regards to contexts, mechanisms and outcomes. Using framework analysis and principles of Realist Evaluation, analysis of interview data with 45 staff and a focus group with the *PCS* implementation team identified that the implementation employed three main mechanisms of change in addition to the WOWE module in general; the '5S Sort', Stock Control Methods, and Visual/Spatial Management. Factors that constrained success included staff not having enough time to carry out the work or to sustain the changes made, improvement not being perceived to be required or possible, and the assumption by implementation team members that elements of the innovation would not engage staff without this assumption being tested. Contexts that enabled success included managers and staff members allocating resources to carry out the WOWE work, effective support from the *PCS* Team, and staff members being willing to try the WOWE work even though success was not guaranteed.

The findings from the examination of the quantitative and qualitative analysis suggest that commissioners of innovation should set targets which encourage sustained improvement efforts over the long term rather than simple before and after measures, and any quantitative benefits demonstrated should be able to clearly linked to their cause, at least as far as possible within the complexities of healthcare. Managers in healthcare need to acknowledge the importance of their support of staff taking part in improvement initiatives, and need to be willing to invest time and resources of their services in order to create and sustain improvements. Implementation teams also need to be willing to discuss or pilot aspects of innovations with staff even if they feel that they will not engage with them, before making a premature decision that they will not work.

Contribution to knowledge in Chapter 4:

- The use of the principles of Realist Evaluation enables a more detailed understanding of how and why the Well Organised Working Environment intervention had different impacts in different areas.
- Participant observation of the implementation in practice in addition to the analysis of interview data allows for more of the processes behind the programme's outcomes to be made explicit.
- The findings indicate that pay-for-performance targets for continuous improvement innovations in healthcare do not always promote continuous improvement.
- The findings reinforce previous findings that managers need to provide tangible support to staff implementing innovations such as *PCS*, and also need to create strategies to allow staff enough time to invest in them.
- The findings suggest that implementation teams' preconceptions of innovations prevent them from being implemented, which reduces the chance of realising the innovation's potential benefits.

Chapter 5: Patient Status at a Glance

5 Introduction

The Patient Status at a Glance module (Module 2) aims to minimise the time looking for patient information, and the time wasted through staff interrupting others to find out patient information. Similarly to the previous chapter, this chapter examines the implementation of this module using a mixed methods approach. Firstly the quantitative outcomes and perceived impact of the module will be examined; and then a qualitative analysis using framework analysis will explore the mechanisms, contexts and outcomes of the module work, in order to explain what went on during the implementation that led to the quantitative outcomes. A discussion of the data will consider the reliability and meaningfulness of the quantitative data, and the implications of the study's findings for healthcare managers, commissioners and implementation teams, which provides important learning points for organisations implementing innovations in future.

5.1 The Programme Theory

In the *PCS* 'Patient Status at a Glance' (PSAG) module, the programme authors propose that productivity can be increased by displaying information about patients that are regularly required onto a large board, or the 'Patient Status At a Glance Board'. The programme authors offer guidance to help staff decide what patient information should be made available 'at a glance' based on the content of handover meetings and the results of the 'Meeting Reliability Audit' (implemented during module 2, see Appendix Q). The completion of an 'Interruptions Audit' also aims to help staff to understand the causes of interruptions (NHSI, 2009d), in order for them to be reduced if possible, and to indicate a measure of productivity (e.g. a reduction in interruptions would suggest an increase in productivity). The 10-point

checklist which embodies the module's characteristics (NHSI, 2009d, p. 12) is in Figure 17, and more of the Programme Theory can be found in NHSI (2009d).

10 point checklist Patient Status at a Glance
The patient status board is in a location central to staff.
The patient board is used in handovers / patient allocation meetings.
Patient confidentiality issues have been considered.
Staff understand where information on the board is coming from.
The frequency of updating the boards, and who is responsible for updating it, is clear.
The board is always up to date.
Staff can quickly understand patient status by reviewing a patient status board.
The reliability (how well they are carried out) of handover / patient allocation meetings is checked every meeting.
Staff don't spend time searching for information.
Staff are not interrupted by other staff looking for information.

Figure 17: Patient Status at a Glance 10-Point Checklist (NHSI, 2009d, p. 13)

5.2 The Implementation

During the implementation, staff were asked to record their interruptions using the 'Interruptions Audit' (see Figure 19, page 131) over one day, and *PCS* Co-ordinators should have discussed the results with the service to see whether any changes could be made to reduce interruptions. In regards to the 'PSAG Board', as many Community Services staff worked away from their base, it was felt to be more efficient to use the 'PSAG Board' concept but in an electronic format. The *PCS* PM had been seconded from his role managing the SystmOne software support team, so he designed a 'PSAG Screen' in each patient record, which displayed fields of regularly used patient information (see Figure 18). This was intended to save staff time as this patient information became available in one place, rather than in multiple locations in the patient record. Mandatory information fields for every service's 'PSAG Screen' were decided on liaison between the *PCS* PM and SACS management (for example, patient contact details, GP, Next of Kin, and Allergies, see Table 5) and services could suggest other patient information that they referenced on a frequent basis. If possible, these were also included.

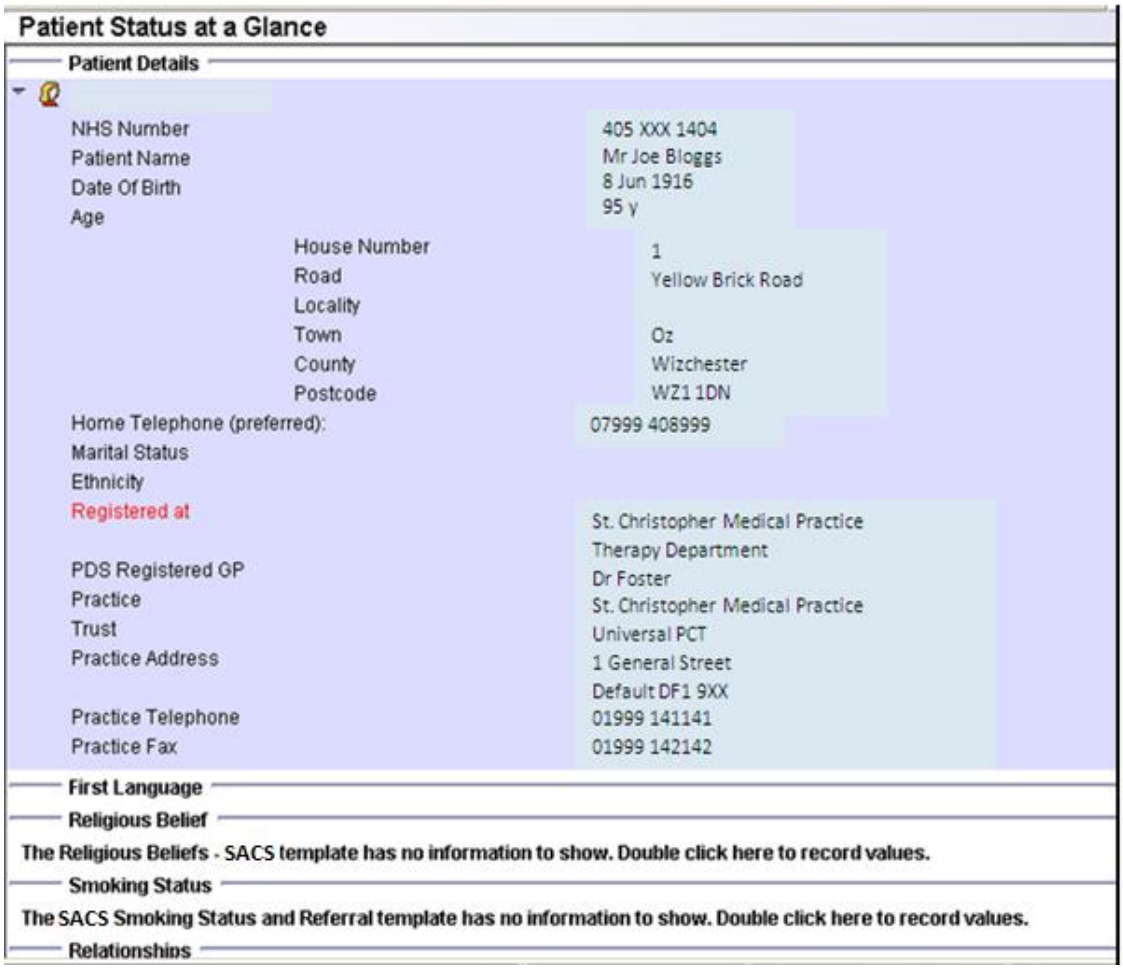


Figure 18: Screenshot from Patient Status at a Glance 'PSAG Screen' in SystmOne

Patient details	Relationships
Other services involved in care	Reminders
GP details	Allergies
First language	Referrals in
Religious belief	Attendance Summary
Smoking status	Last 5 clinically relevant entries
Care Plans (where applicable)	Pending Visits (where applicable)
Pending Appointments (where applicable)	

Table 5: Mandatory information fields displayed in a standard SystmOne PSAG Screen
NB. This information was required to be located during the PSAG timing exercise

5.3 Method

Similarly to the previous chapter, a mixed-methods explanatory sequential design (Creswell and Plano Clark, 2007) was used, whereby a quantitative data collection phase was carried out during the implementation, followed by a qualitative data collection phase to offer explanations behind the

quantitative data. This design was employed so that the quantitative data generated during the module and the processes during the implementation that contributed towards the production of that data could be examined. The analysis was also informed by the Researcher's participant observation work (see page 72).

5.3.1 Quantitative Data

5.3.1.1 'Interruptions Audit'

PCS Co-ordinators encouraged all of their allocated services to complete 'Interruptions Audits' (see Figure 19). These were planned to be carried out towards the beginning of the module implementation and towards the end, in an attempt to calculate a reduction of time taken up by interruptions. 179 staff members from 30 services submitted 'Interruptions Audits'.

Productive Community Services
Releasing Time to Care™

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Patient Status at a Glance: Interruptions Audit Sheet
Number of interruptions / discussions during a working day

Name:		Total no. work hours recording info:	
Service:		Total time spent in office:	
Time started:		Total time spent outside office:	
Time finished:		Date:	

Please record the number of times that someone asks you about something. It may or may not be patient related.

It can be anything that stops / delays you from doing your immediate work e.g.

• Phone call in the office. • A query about anything. • A discussion about one of your patients even if you planned to discuss with them at some stage that day.	• Mobile phone call. • A question from a student or a member of staff

Please also mark the times you discuss a patient with someone else in the team by marking the entry with a *

Patient Related			Non Patient Related		
Who with	**What about**	**Time length (mins)**	**Who with**	**What about**	**Time length (mins)**
OT	*Discharge plans for pt*	*5*	*TI*	*Info on Saturday working*	*5*
Relative	*Patient*	*10*	*Clerical*	*Location of case notes*	*5*
*OT**	*Asked about pt plans*	*5*			

Figure 19: Extract from the 'Interruptions Audit' (NHSI, 2009e)

5.3.1.2 PSAG Screen Timed Exercise

To quantify the time saved by the use of the 'PSAG Screen' (see Figure 18, page 130), the *PCS* PM designed a timed exercise whereby a member of each service timed themselves finding patient data (in Table 5) in one condition without the 'PSAG Screen' and in the second condition using the 'PSAG Screen'. During Year 1 the exercise was not well standardised so is not reported here, however during Year 2 this process was improved so that a nominated staff member was timed looking for information in 13 different patient records without using the 'PSAG Screen', and then repeated this process using the 'PSAG Screen'. The trials were intended to be carried out individually as and when the staff members needed to access the patient records, however many staff members carried out the 13 'Before' or 'After' trials in one session. Staff members timed themselves or were timed by members of the *PCS* Team. During Year 2 this exercise was linked to a CQUIN target which pledged payment if time looking for patient information was reduced by at least 10%.

The design of the exercise sought to compare the difference between two means; the mean time taken to find patient information without the PSAG Screen, and the mean time taken to find patient information with the PSAG Screen. As it was predicted it would take less time to find patient information by using the PSAG Screen, the hypothesis was one-tailed. Using a priori power analysis using G*Power (version 3.1.9.2), to produce a an alpha value of 0.05, an effect size of at least 0.5, and power to be at least 0.80 (both thresholds proposed by Cohen, 1988, 1992, cited in Field, 2005), there needed to have been a sample of 27 participants. Staff members that took part in the exercise were either chosen by members of the *PCS* Team or by service managers, and should have been staff that would have often looked for patient information in SystmOne. Out of the 38 service specialities in the organisation (see page 46), there were seven services for which the 'PSAG Screen' exercise was not relevant (for example because SystmOne was not their Electronic Patient Record system). Of the remaining services, 24 staff members from different services took part.

5.3.1.3 Module Assessments

Module assessments were designed by the Researcher based on the *PCS* Material and on liaison with the *PCS* Team (see more information on page 63). In a development from Year 1, the Year 2 Module Assessments were carried out towards the beginning of each module and towards the end, so that a comparison could be made of services before and after the module work had been carried out. It was hypothesised that agreement with the module's standards (the 10-point checklist, see page 129) would be greater in the end of module assessment than the beginning of module assessment (one-tailed). The section of the module assessment measuring agreement with the module's standards was a Likert scale. Over the last five decades, there has been much debate about how Likert scale data should be treated (Carifio and Perla, 2008). Scholars such as Jamieson (2004) argue that Likert scale data is ordinal rather than interval data and thus does not meet with assumptions for parametric tests. However, de Winter and Dodou (2010) compared the results of t-tests with Mann-Whitney-Wilcoxon tests and found that they both had similar power, and Carifio and Perla (2008) propose that there is ample other evidence to indicate that it is appropriate to use parametric test to analyse Likert scales (although not Likert items). Therefore the data from the responses to the module checklists was treated as interval data and analysed using a paired-samples t-test. Responses were coded in SPSS v.19 as Strongly Agree = 4, Agree = 3, Disagree = 2 and Strongly Disagree = 1, and the total scores for the Beginning Module Assessment were compared with the total scores for the End Module Assessment. Gpower software indicated that a sample of 27 respondents was required to detect large effects with sufficient power ($r=0.5$, $1-\beta=0.80$, Cohen, 1988, 1992, cited in Field, 2005). *PCS* Co-ordinators requested that Module Assessments (see Appendix J) be completed by at least a Team Manager/Leader and at least one Team Member from each of their services. 72 Beginning of Module Assessments and 69 End of Module Assessments were submitted.

5.3.2 Qualitative Data

The same method used in Chapter 4 was used, whereby a Framework Analysis (Spencer et al., 2014a) of interview and focus group data was carried out, using the principles of Realist Evaluation (Greenhalgh et al., 2009; Pawson and Tilley, 1997) to guide the thematic framework. However this analysis examined

talk about the Patient Status at a Glance module. In addition, this analysis also used qualitative data generated during other parts of the programme, such as qualitative comments noted on the Module Assessments, and a message noted on the back of a submitted 'Interruptions Audit'. Similarly to the previous chapter, a basic Context-Mechanism-Outcome configuration (Pawson and Tilley, 1997) was proposed based on the Programme Theory (see Figure 20):

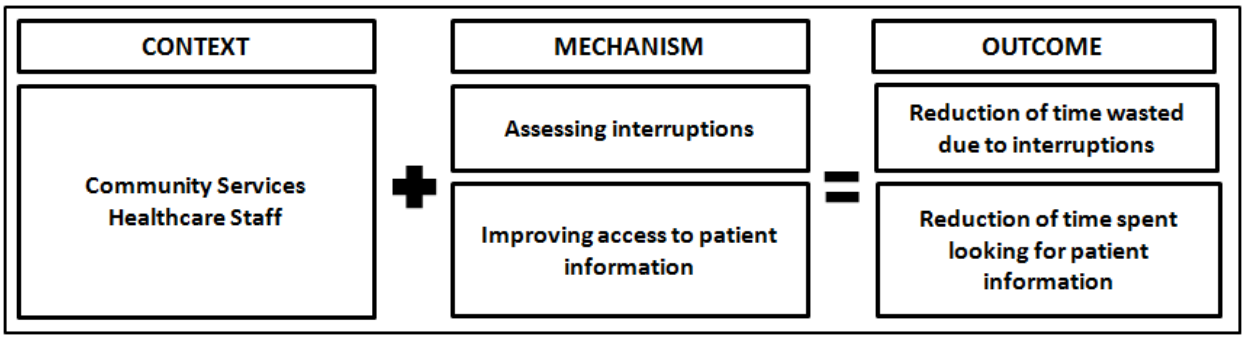


Figure 20: Predicted Context-Mechanism-Outcome configuration for the PSAG module

More details about the methods can be found in Chapter 2.

5.4 Quantitative Results

5.4.1.1 The 'Interruptions Audit'

Although there was the intention to carry out the 'Interruptions Audit' twice, it was only carried out once, partly due to the *PCS* Team assessing that there was not enough time to carry out a second audit, and partly because the initial audit had not been completed well enough to provide reliable data regarding time taken up by interruptions. Figure 21 below displays the data submitted from four members of a therapy team:

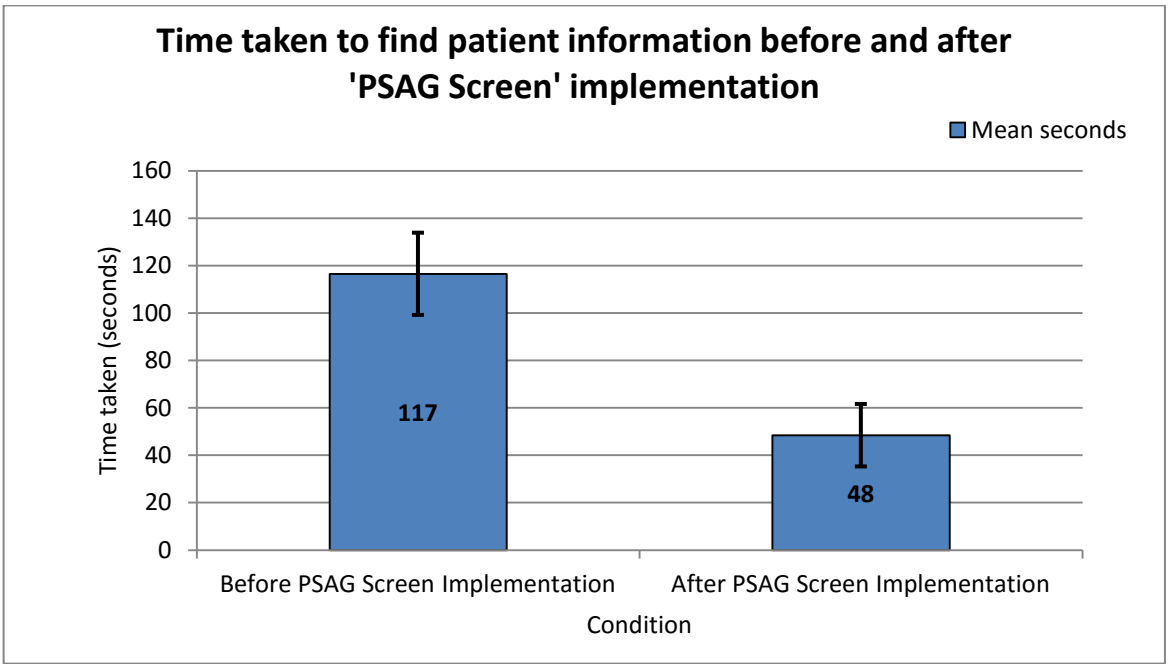
Interruption	Staff member	Total no. work hours recording info	Total time spent in office	Time started	Time finished	Who with	What About	Time length (mins)
1	a	8	8	08:00	16:00	Admin	Asked about pt	5
2	a					PT*	Talk about patient	5
3	a					PT*	Talk about patient	5
4	b			08:30		Physio*	Pt Plateau	5
5	b			08:30		Physio*	Pt related query	5
6	b			08:30		Community team*	Query re: SALT ref	5
7	b			08:30		Broomfield switchboard	SALT No.	10
8	b			08:30		Admin	Fax No & Triage	5
9	b			08:30		(self)#	Photocopying sheets	5
10	b			08:30		S.A.#	Pt whom he d/c prev.	5
11	c			08:00	15:35	Admin	Message to D/C? Pt	3
12	c			08:00	15:35	Admin	Order pump for U/S gel	3
	d			07:30	17:00	[Audit submitted with no data]		

Figure 21: Sample of 'Interruptions Audit' data received from a therapy team
NB. * should denote the discussion of the patient with someone else within the team. # should denote interruptions that were Non Patient Related. Dark grey fields denote missing data fields

The figure above demonstrates that data fields were missing, that there weren't very many interruptions documented (e.g. 3 for staff member 'a', 2 for staff member 'c' and none for staff member 'd'), and data in the 'What about' column often did not have enough information for interruptions to be addressed. For example, 'Talk about patient' with a colleague may have been a necessary interruption, but if the information was available on SystmOne the interruption was unnecessary, so it is uncertain from the data whether this interruption could have been prevented. Issues of missing data, few interruptions documented and lack of information recorded were typical of the data received. On review of the results, all *PCS* Co-ordinators and their teams felt that the majority of interruptions were either relevant, or the issues causing the interruptions were known to management and were not within the scope of *PCS* to resolve, for example, regarding technology or estates issues. One team put in a process to assign one person to field queries for the day to reduce interruptions for other staff, however no other changes were reported as a result of this exercise.

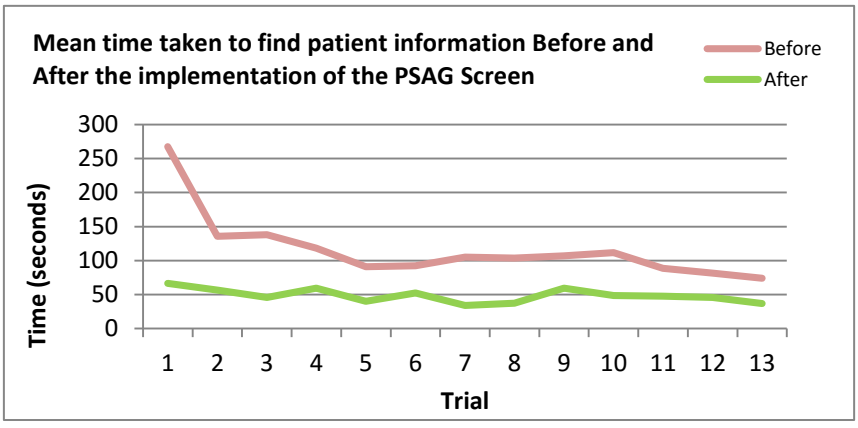
5.4.1.2 Year 2: The 'PSAG Screen' and Timed Exercise

Only one team implemented a physical PSAG board in their base, however all teams that used SystmOne were provided with a 'PSAG Screen' in the patient record. The graph below shows the mean time taken before and after the 'PSAG Screen' was implemented:



Graph 3: Time taken to find information before and after 'PSAG Screen' implementation
NB. Vertical black lines represent the Standard Error

The standard error in the 'Before' condition (17) was larger than in the 'After' condition (13), and this was due to the longer duration of time taken in the first few trials in the 'Before' condition, which was not seen in the 'After' condition. The graph below illustrates this further:



Graph 4: Time taken to find information Before and After the implementation of the 'PSAG Screen'

The following table breaks down the results of the 'PSAG Screen' timed exercise by service:

Service	Mean Time Saved Seconds (SD)	Mean Change (%)	z	p
District Nursing Teams	40 (27)	-62	-3.18	<0.01
Locality Teams	115 (86)	-77	-3.18	<0.01
Tissue Viability and Lymphoedema	39 (50)	-63	-3.18	<0.01
Immunisations Team	101 (56)	-83	-3.18	<0.01
Assessment and Rehabilitation Unit	110 (113)	-79	-3.18	<0.01
Unscheduled Therapy	51 (64)	-68	-3.18	<0.01
Children's Services	-4 (9)	+6	-1.20	(NS)0.23
Scheduled Therapy	50 (45)	-71	-3.19	<0.01
DN Liaison and CAS	57 (40)	-83	-3.18	<0.01
Adult Speech and Language Therapy	108 (55)	-69	-3.18	<0.01
Children's Diabetes	61 (27)	-85	-3.18	<0.01
Long Term Conditions (excl. Parkinsons)	51 (18)	-78	-3.18	<0.01
Phlebotomy	66 (141)	-84	-3.18	<0.01
Safeguarding	49 (22)	-63	-3.18	<0.01
Falls and Healthy Living	32 (20)	-67	-3.18	<0.01
Wheelchairs	23 (18)	-67	-3.18	<0.01
Dermatology and Ear Nose and Throat	130 (58)	-86	-3.19	<0.01
EPIC	47 (24)	-59	-3.19	<0.01
Paediatric OT and PT	81 (52)	-76	-3.18	<0.01
Paediatric Audiology and Audiology	90 (157)	-72	-3.30	<0.01
Podiatry	-21 (45)	+25	-1.54	(NS)0.12
Looked After Children	111 (64)	-60	-3.10	<0.01
Parkinsons Service	85 (161)	-22	-1.66	(NS)0.10
Smoking Cessation	162 (254)	-47	-1.98	<0.05
Total	68 (95)	-62	-13.52	<0.01

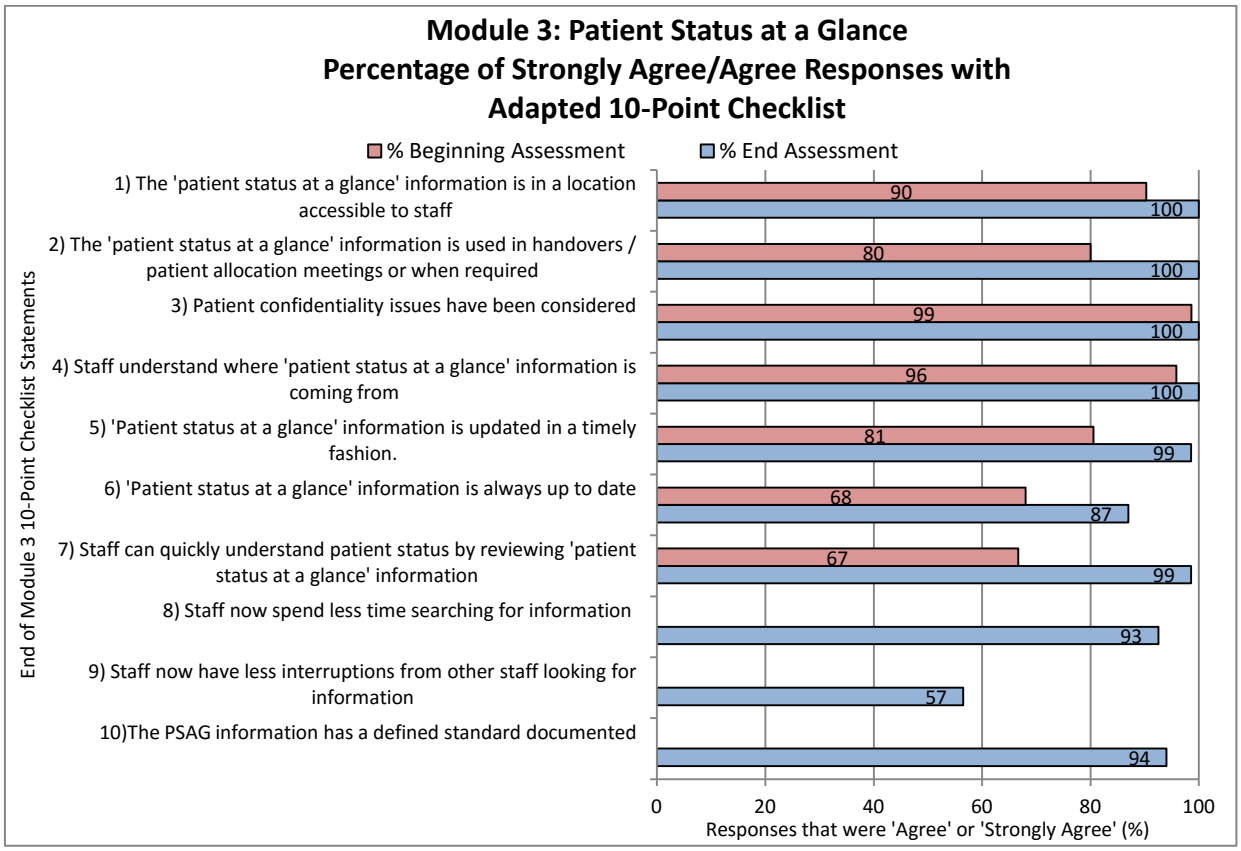
Table 6: Summary and statistical analysis of the PSAG timings using a Wilcoxon signed-rank test
NB. Source: SACS, 2012c (Appendix B), see page 46 for service abbreviations. (NS) indicates difference was Not Statistically significant

92% of participants reduced the amount of time it took to find the patient information, and the use of the 'PSAG Screen' reduced the total time taken to find the information by 62%. The data was skewed, however the data could not be transformed using Log, Square Root nor Reciprocal transformations to warrant a parametric statistical test. Therefore a Wilcoxon signed-rank test demonstrated the reduction to be statistically significant with a large effect size (z=-4.200, p<0.01, r=0.606) and high statistical power (1–β=0.878). Two services (Podiatry and Children's Services) increased the time it took to find patient information, however these increases were not statistically significant.

5.4.1.3 Year 2: Module 3 Assessments Results

Graph 5 displays the responses received in the Module 3 Assessments. Statements 8-10 were not provided in the Beginning Assessment as it was felt that they would not be relevant to staff before the module had

been implemented. Overall, the results of the paired-samples t-test found that there was statistically significant higher reported level of agreement with the module's standards towards the end of the PSAG implementation (M=20.83, SE=0.332) than there was at the beginning (M=19.38, SE=0.327, t (68) = -4.38, p <.01). Using guidance from Cohen, 1988, 1992, cited in Field (2005), there was a moderate effect size (r = .47). Examining scores for individual items by using parametric tests is not advised (Carifio and Perla, 2008), therefore non-parametric tests were carried out on the Likert items, and a Wilcoxon Signed-Rank test found the increase in agreement to be statistically significant for statements 1, 2, 4, 5 and 7 (see Table 7).

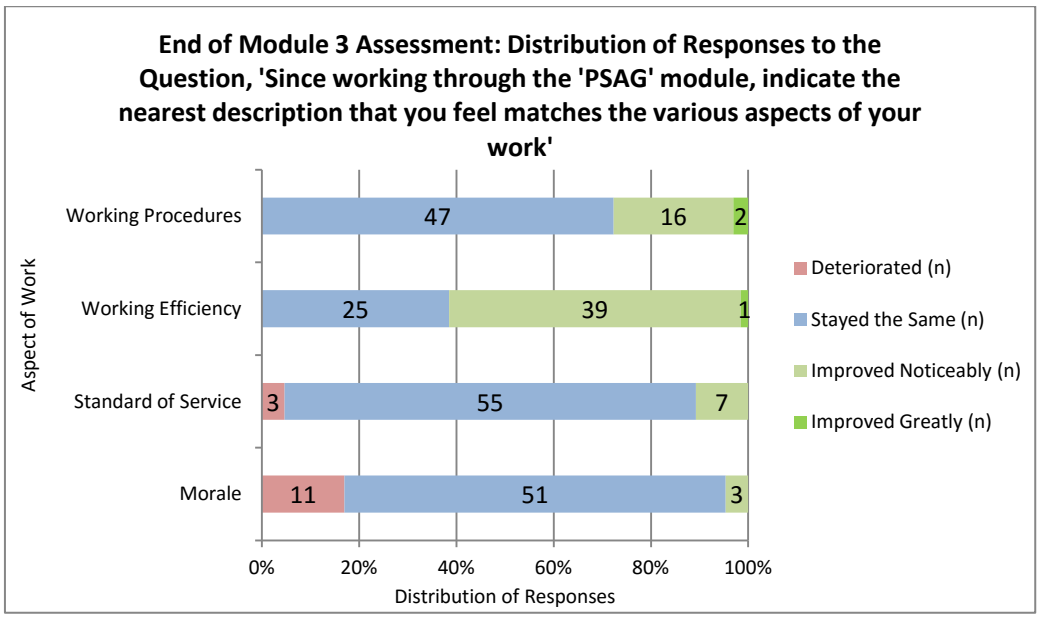


Graph 5: Year 2, Module 3, % of 'Strongly Agree' or 'Agree' responses to Module 3 Assessment
NB. Excludes 'Not Applicable' responses. Beginning Assessment, n = 25-72; End Assessment, n=23-69 (see Appendix R for number of responses for all statements)

Statement	z	p
1 Patient Status Information is in a location easily accessible to staff.	-2.148	<0.05
2 Patient Status Information is used in handovers/patient allocation meetings.	-1.999	<0.05
3 Patient confidentiality issues have been considered.	-1.789	(NS) 0.074
4 Staff understand where Patient Status Information is coming from.	-3.771	<0.01
5 The frequency of updating the Patient Status Information, and who is responsible for updating it, is clear.	-2.449	<0.05
6 Patient Status Information is always up to date.	-0.816	(NS) 0.414
7 Staff can quickly understand the patient status by reviewing the Patient Status Information.	-4.824	<0.01

Table 7: z and p values for Wilcoxon Signed-Rank tests on Year 2, Module 3 Assessments
NB: Responses were coded as 1=Strongly Disagree, 2=Disagree, 3=Agree, 4=Strongly Agree

Graph 6 below summarises the responses regarding the 'Aspects of Work'. For Working Procedures, Standard of Service and Morale, the majority of responses suggested that these aspects had been maintained, however 62% (n=40) responded that Working Efficiency had improved to some extent, and just over a quarter of responses (28%, n=18) indicated that Working Procedures had improved to some extent.



Graph 6: Year 2, Responses relating to aspect of work for the End of Module 3 Assessment

Deterioration was reported the most frequently when referring to morale (n=11, 17%), however deterioration was also reported in regards to Standard of Service in 5% of responses (n=3), which staff explained was due to feeling under pressure to complete the module, and due to the 'PSAG Screen' not being fully operational.

5.5 Qualitative Results

Although the quantitative data submitted during the 'Interruptions Audit' could not be used to demonstrate time savings for staff, quantitative analysis of the 'PSAG Screen' timed exercise found that the 'PSAG Screen' reduced the time spent finding patient information by 62%, and 62% of Module Assessment respondents felt that working efficiency had improved since working through the PSAG module. These positive results suggest that the 'PSAG Screen' was effective for the majority of staff members, but not all. The hypotheses proposed two mechanisms of change (see page 134) which were identified in the qualitative analysis. These were 'Assessing interruptions,' via the 'Interruptions Audit', as this had the potential for staff to identify interruptions in order to change their processes to reduce interruptions in future; and 'Improving access to patient information,' via the 'PSAG Screen' as this had the potential to enable staff members to find patient information more easily and quickly than they would have done without the screen. The contexts, mechanisms and outcomes identified from the analysis can be seen in Figure 22, page 141, which uses a model adapted from research by Greenhalgh et al. (2009). The contexts and outcomes are described for each mechanism identified below.

5.5.1 The 'Interruptions Audit' as a mechanism for change

The analysis of qualitative data from the interviews and *PCS* Team focus group offers some explanation as to why the 'Interruptions Audit' was, for most services, ineffective. For example, little or no improvement was seen as a result of the 'Interruptions Audit':

> *"I don't know if from the other exercises that we done like the interruptions one...Whether that might have a knock-on effect in the, in the future...But at the moment it hasn't- I wouldn't say it's had a massive impact, on on how we work."*
>
> Clinical Team Member, Scheduled Therapy, 028

Staff were unsure of the results of the 'Interruptions Audit', and even if issues were highlighted by the 'Interruptions Audit', they were not resolved:

> *"...We've got no physio admin, person to take phone calls to do re-bookings... to a-answer the phone so we do all that...we had quite a lot of, interruptions...so we've always been, hoping that, anything like this...makes them realise that we could do with somebody here...to...take some of that work off us...Nothing's changed...we've still got no admin to s- to help us out with the, interruptions."*
>
> Clinical Team Member, Scheduled Therapy, 044

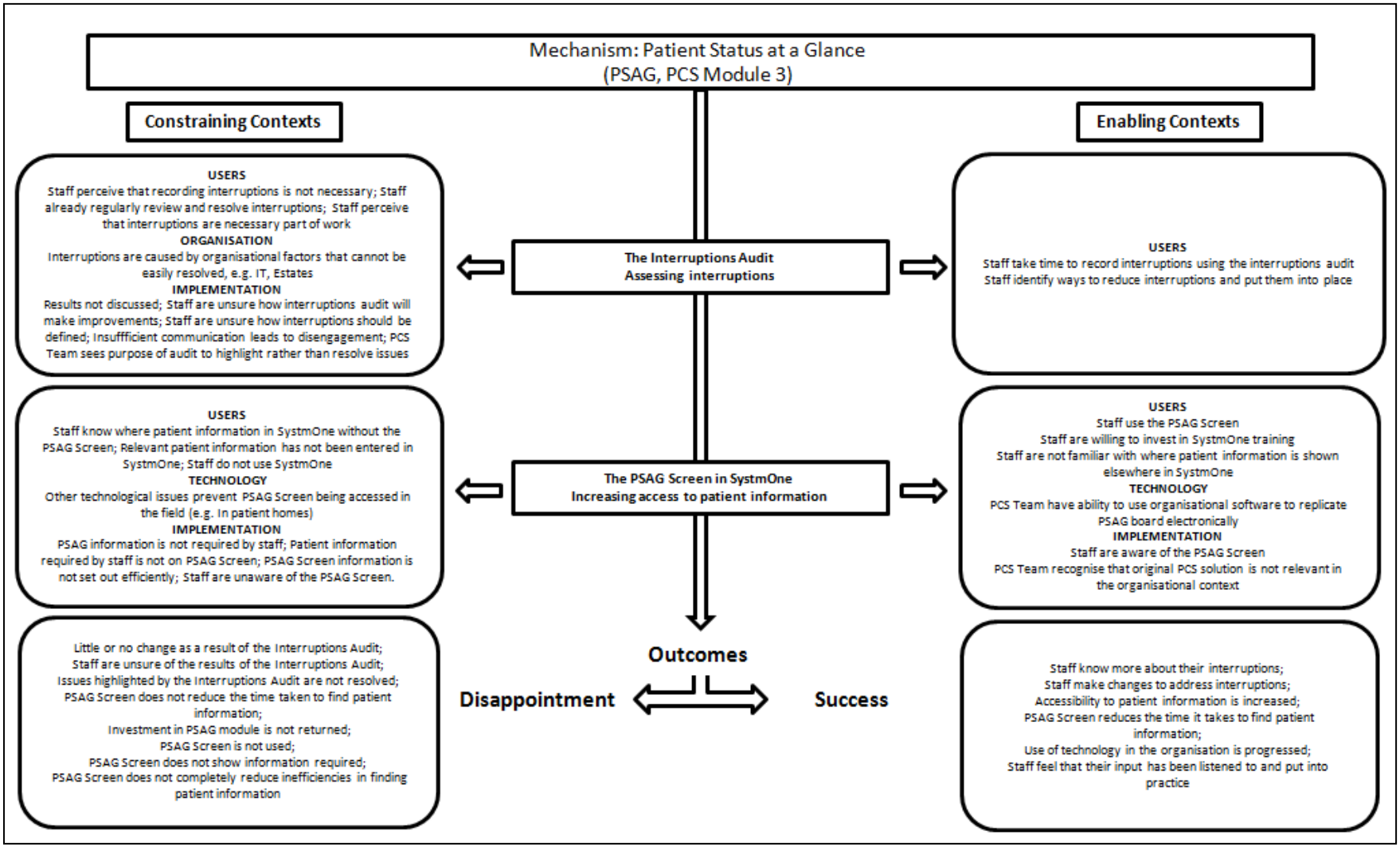


Figure 22: Contexts, Mechanisms and Outcomes of PSAG (model based on Greenhalgh et al., 2009)

The contexts in which these disappointment outcomes played out could be categorised into those regarding the implementation, users and organisational factors. In regards to the implementation, disappointment outcomes were seen in contexts where the results of the 'Interruptions Audit' were not discussed, where staff were unsure how interruptions should be defined, or where staff were unsure *how* the 'Interruptions Audit' was supposed to make improvements:

> *"I'm not sure how, you could, make, you can't stop people ringing...I mean I make people appointments you know...They are going to ring me...no matter what I'm doing during the day, my phone is going to constantly ring...So I'm not sure how, you could make that more efficient... You know for some, for people in our job...y-your day is, total interruptions...You know the phone rings constantly."*
>
> Administrative Team Member, Scheduled Therapy, 008

Discussion by the *PCS* Team indicated that their expectation of the exercise was to highlight rather than resolve issues raised by the 'Interruptions Audit', and insufficient communication about the 'Interruptions Audit' meant that staff were likely to disengage with the process:

> *"...I think sometimes when you get told you've got to just write everything down every phone call, immediately people put barriers up and think...well that's, too time consuming"*
>
> Clinical Team Member, Healthy Living, 045

Disappointment was also likely in contexts where the 'Interruptions Audit' highlighted issues to do with organisational factors such as estates or Information Technology that couldn't be resolved:

> *"...For examples like, the interruptions [.] constantly logging onto computers and, and how slow it is are things that we've, said for a while does impact and how you use SystmOne...Does make our life quite slow... that was a clear picture when we done the interruption thing that most of our day is spent, by, using up time, with that so whether that, is then fed back and we can change stuff...Then, it would be good, but I haven't seen anything that's come back round, from what we've highlighted."*
>
> Clinical Team Member, Scheduled Therapy, 028

Regarding the users of the implementation, in contexts where staff felt that recording interruptions was not necessary, where staff already regularly reviewed and resolved interruptions, or where staff felt that interruptions were a necessary part of work, disappointment outcomes were more likely to be experienced. The following note was written on the back of an 'Interruptions Audit' sheet by a member of staff:

"I would like it noted that I feel very strongly about this task as I do not like the fact that I feel I cannot ask questions to colleagues regarding procedures/patient care. We are a small team with part time staff and need to discuss the patients care/plan changes. Staff come and go from the office due to the nature of community work and you have to catch staff when you can.
I feel this is aimed at time wasters."

Note written on the back of a submitted 'Interruptions Audit' sheet

The two contexts that were identified as enabling success outcomes (as there was little evidence of 'success') were where staff took time to record interruptions using the 'Interruptions Audit', and where staff identified ways to reduce interruptions and put them into practice:

"Most of the interruptions were work related…However, the team lead will consider re-introducing "The Query Queen." Each day one member of staff is allocated to wear the Crown (on their desk). This is an indication to all members of the team who is responsible to answer queries for that day."

Children's Services, End of Module 3 Assessment

Although there was one service with a success outcome that planned to put in place an initiative to reduce interruptions (see the 'Query Queen' example above), the only other success outcome was a greater knowledge about interruptions. Although the response to the Module Assessment checklist statement indicated that 57% received less interruptions from other staff looking for information (which may have improved because the 'PSAG Screen' provided more patient information), there was no evidence from the interview data or Module Assessment qualitative data that suggested that interruptions had decreased as a result of the 'Interruptions Audit':

"I- it was useful o-on a local level because...it made us <u>aware</u> of how many times we were being, say interrupted...we may not have done much with the information [laughs] but w- but it was interesting t-to see, w-what we do with our time."

Clinical Team Member, Scheduled Therapy, 044

5.5.2 The 'PSAG Screen' as a mechanism for change

The success outcomes as a result of the 'PSAG Screen' included increased access to patient information, and a reduction in the time taken to find patient information (as identified in the quantitative analysis on page 138):

> *"...We just hit like a patient record, and it gave us all the information that we were looking for when we did one of the tasks of looking for patient information like, their date of birth, their GP...that type of thing...so that did make, things slightly quicker...'cause that, that actually highlighted from, doing the task of, finding it all manually yourself to actually just, going straight in and finding it, straight away...that was a, positive one."*
>
> Administrative Team Member, ENT & Dermatology, 043

The *PCS* Team also noted how the 'PSAG Screen' had 'moved the organisation on' in its use of technology, and the Adult Speech and Language service staff completing the Module Assessment noted that they felt that their input had been listened to and put into practice as a result of the 'PSAG Screen' exercise:

> *"The fact that people have been able to make suggestions and it's come to fruition has been good - people have seen that their thoughts and ideas have been listened to and are appreciated."*
>
> Adult Speech and Language Therapy, End of Module 3 Assessment

The contexts identified as enabling these success outcomes were awareness of the PSAG Screen, use of the PSAG screen, staff not knowing where the patient information was elsewhere in SystmOne, and staff being willing to invest in SystmOne training. The ability to use organisational software to replicate the PSAG board electronically, and also the ability to recognise that the original *PCS* solution was not relevant to the organisation were also contexts in which this mechanism was enabled. The *PCS* Team noted:

> *B:* *The way we've done it, with SystmOne, is almost, the [.] upgraded way of the way the modules are written at the minute...'Cause it is very paper-based...we've gone one step beyond that, <u>because</u>, the organisation...uses SystmOne*
>
> *PM:* *...Yeah...the patient status stuff you wouldn't want to have teams, that can have that, reproduced on SystmOne, go and put this big board up pay for a big board to go up in their office...and every day, be writing this board...because that would have made them more, <u>un</u>productive...to do what the guide tells them to do*
>
> *B:* *Yeah [.] It aided us to, tackle it... to, <u>do</u> it in a slightly different way...which will...<u>move</u> the Trust on.*
>
> *PCS* Team Focus Group, *PCS* Co-ordinator 'B' and *PCS* PM

Although the majority of interviewees that talked about the 'PSAG Screen' and the Module Assessment respondents felt positively about the 'PSAG Screen' and its benefits, there were those who were disappointed. For instance, the 'PSAG Screen' was found to not reduce the time taken to find patient information (as identified in the quantitative data for Children's Services, Podiatry and Parkinsons Service, see page 137), and in particular for one of these services (Podiatry) the return on investment was not realised, as a clinician had taken time out of clinics to carry out the timed exercise, only to find that the 'PSAG Screen' increased the time taken to find patient information.

> *"...for instance timing looking at, however many, number of patients on SystmOne we had to time looking at, erm getting their information up...And then, re-timing it, once the front page and all the information was on the front page...actually it took us longer..than, when it was on the front page than when w-, we were looking, all over the place 'cause we knew where everything was anyway...So it made no difference...I had to pull someone out of clinic to do the timing on them...Twice..."*
>
> Service Manager/Team Leader, Podiatry, 003

The 'PSAG Screen' did not completely reduce inefficiencies as the layout of the information increased the time it took to find certain information, and for some services, the 'PSAG Screen' did not show the information required:

> *"This module has proved problematic as the team feel the screen has not met the needs of the staff. There has been further communication around this... The information required is not all on one page. Therefore it still takes time to search for information."*
>
> Children's Community Nursing Service, End of Module 3 Assessment

The contexts that were seen to constrain the PSAG Screen's effectiveness were those where staff were unaware of the PSAG Screen, where staff already knew where information was elsewhere in SystmOne before completing the PSAG Timed exercise, or where the 'PSAG Screen' information was not required:

> *"I got really frustrated leading on the um [.] the [.] PG, S, scree-...because...our team are quite good at SystmOne now, after much (laughs)...Hard work...and so...I think on the whole quite accepting of it and are... happy for... changes to be made and, things like that, but, came in with the, with that screen, and they were like, 'It must include X,Y,Z blah blah blah, then we were saying, that's, that's fine, but that [.] isn't what, we need...In our, day to day clinical [.] work."*
>
> Clinical Team Member, Podiatry, 020

PSAG Screen information depended on information put into SystmOne in the first place, and so in those contexts where staff did not enter sufficient information into SystmOne, the relevant information could not be found on the PSAG Screen:

> *"Expectations have not been fully met as staff still currently spending significant time in inputting data and systems not always fully functional... the information is only as reliable as to what has been inputted"*
>
> District Nursing Area G, End of Module 3 Assessment

The ‘PSAG Screen’ was also not effective in contexts where the screen was not set out efficiently, or if staff didn’t use SystmOne for their Electronic Patient Record system. For some, other technological issues needed to be resolved for PSAG to be of benefit, for example mobile signal being available in the field:

> *“...Staff apart from 1 person, think it's a brilliant system. Drawback is when they're out with client and can't get signal..they go into clinic, go into [SystmOne] to get notes up, and if they can't, they've got to come out from clinics, then might need to phone someone at the office. Soul destroying when they're keyed up to use [SystmOne] and it lets them down in the field...”*
>
> Wheelchair Service, End of Module 3 Assessment

5.6 Discussion

This study set out to report the quantitative data generated during the PSAG module while examining the reliability and meaningfulness of the data, and to identify the contexts, mechanisms and outcomes of the module work in order to explain the processes underlying the quantitative outcomes. The implication of these findings were also to be considered for healthcare staff, commissioners and implementation teams. This study found that quantitative outcomes could not be reported from the ‘Interruptions Audit’ as it was only carried out once, and so could not be used as a measure to identify a reduction in interruptions. In addition, the quality of the data submitted was often not adequate enough to identify how interruptions could be prevented in future. However the PSAG Timed Exercise found that the time taken to find patient information reduced by 62% as a result of the PSAG Screen, and 57% of respondents to the Module Assessment reported that they had less interruptions from other staff looking for information towards the end of the module implementation. The qualitative analysis identified both the ‘Interruptions Audits’ and the ‘PSAG Screen’ as mechanisms for change. The ‘Interruptions Audit’ was found to highlight interruptions, but generate little improvement. The ‘PSAG Screen’ was seen to save time for many services, but in certain contexts increased the time taken to find patient information.

It is difficult to compare the results of this study with previous research as there is little published research specifically including the outcomes of the PSAG module, but there are some anecdotal reports of Productive Ward implementations that can be used. For example in a case study reported by Blakemore

(2009a), she reported that daily interruptions reduced from 100 to 15 as a result of an implementation of the Productive Ward, while direct care time with patients almost doubled from 45% to 87%. Foster et al. (2009) report that they identified that nurses were interrupted on average once every five minutes, and Allsopp et al. (2009) one every three and a half minutes, and although they suggest that interruptions reduced as a result of the PSAG module, neither provides comparative data to indicate the extent to which interruptions reduced as the result of the PSAG Board. However it is important to note that these studies were based on Productive Ward implementations in ward environments where staff are usually within the same environment as other staff and patients. This is likely to make them more prone to interruptions than many staff in a Community healthcare setting who work alone with patients, either in their homes or in closed clinic rooms, which may be why there weren't many interruptions documented in this implementation.

Analysis of the qualitative data indicated that little benefit was gained from the implementation of the 'Interruptions Audit', as its use precipitated little change or improvement. Although it could be expected that some of the *PCS* assessment tools might not highlight a need for improvement if improvement was not required, the qualitative data analysis offers some explanations as to why this was not effective in certain contexts. For example, the definition of an interruption was ambiguous, with some services recording anything considered as an interruption, rather than being, "...anything that stops / delays you from doing your immediate work," as defined on the 'Interruptions Audit' sheet (see page 131). For staff members who regularly received 'interruptions' (for example, administrators receiving telephone calls from patients booking appointments), recording all of these would have been a huge task and would largely be a waste of time as this was not what was required to be recorded as this was part of their immediate work (e.g. 008 on page 142). The qualitative data analysis highlighted that for many staff, they did not really understand how the 'Interruptions Audit' was supposed to make improvements, and so without this understanding they were not likely to record information required to make improvements. In future implementations, healthcare staff and managers should be willing to question implementation teams so that they have a clear understanding of why interventions are being carried out and how they are

anticipated to create improvements. It was clear from the interviews that many staff carried out the 'Interruptions Audit' without this understanding and so may have been a missed opportunity for improvement.

The audit sheet also supplied data fields so that staff could record the time taken up by interruption. However, analysis based on the time of the interruptions would have also required accurate data in regards to the total time that the audit was carried out, and the quality of this data was so poor and inconsistent that it was felt that any conclusions made on the data were likely to be inaccurate. The programme authors suggest that the interruptions should be analysed by being categorised as 'informal' or 'formal' (although these terms are not defined clearly in the material), and an Excel spreadsheet is provided to produce a graph displaying the number of interruptions and their sources (see Appendix S). In the implementation however, after the first 'Interruptions Audits' were carried out, *PCS* Co-ordinators just discussed the interruptions with members of their services to see whether there was anything that could be done to reduce them, and evidence from the interviews suggested that this discussion did not reach all team members (page 140). The issues that appeared to have the greatest impact were related to technology or to estates, neither of which could be resolved by the *PCS* Team. This not only made the need for a second 'Interruptions Audit' redundant, but this also may have made the *PCS* Team and the programme appear impotent, as problems were identified but could not be resolved.

It is also worth noting that the act of interruption is not only to give or receive information, but is also a social interaction which performs other functions that might benefit staff members. This should not be an excuse for poor practices leading to unnecessary interruptions, and some research suggests that less contact between staff members can benefit working practices, particularly for teleworkers who work from sites other than the regular workplace (Fonner and Roloff, 2010). However, in community teams where staff tend to have little contact with each other, these interactions may contribute positively towards staff members' psychological health (Rousseau et al., 2008) and affective commitment to the organisation (Rousseau and Aubé, 2010). Therefore even though the *PCS* work might enable patient information to be

found quickly, staff members may still prefer to interrupt their colleagues to discuss patient information, and this may not have a completely negative effect.

All these issues regarding the 'Interruptions Audit' provide opportunities for learning. In terms of learning specifically for future implementations of the 'Interruptions Audit' in Community settings, implementation teams should see that the principle objective of the module to put the PSAG Board or Screen in place so that staff members can find the patient information themselves, allowing any discussion to solely concern more detailed aspects of patient care, rather than enquiring about basic patient information (e.g. the patient's General Practitioner). Therefore the 'Interruptions Audit' might be improved by defining interruptions as those that are 'unjustified' – those that could be prevented by easier access to patient information, and those that are 'justified', which involve discussion about patient care. In terms of implementing change in healthcare more broadly, similarly to findings in Chapter 3 and 4, implementation teams should ensure that interventions are made relevant to the context they're implemented in. This may require some thought as to the service context, for example in terms of staff working patterns, and the staff context, for example the differences between administrators and clinical staff. In addition, although the NHSI had piloted the *Productive Community Services* programme in Community healthcare organisations (for example see NHSI, 2011b), one can assume that the issues identified in this study had not been previously experienced, at least not enough to warrant the material being adapted to explicitly address these issues. Interestingly, this module was in effect piloted in the three targeted services (Admission Avoidance, District Nursing Area F and Paediatric Speech and Language Therapy) during the first year of implementation, however the issues that arose during year two were not encountered during year one, or not to the extent that changes were seen to be required. Therefore, Implementation Teams should bear in mind that even if interventions have been piloted, they need to remain reflective when rolling out to different service contexts, so that any issues can be identified and improved for other services in the organisation.

The ‘PSAG Screen’ timed exercise was designed to measure the time saved by the implementation of the ‘PSAG Screen’. However, there were various limitations of this exercise. The positive skew in the ‘Before’ condition seen for the majority of services suggested that the participants were learning where the information was in the first few trials. Once they had learnt where the information was, the duration of time taken to find the information came close to the duration of time taken to find the information on the ‘PSAG Screen’. This was partly due to the experimental design, where all the ‘Before’ trials took place consecutively. A counterbalanced design would have prevented the resulting performance curve. However, the positive skew inadvertently highlighted that staff members were unfamiliar with where the information was located elsewhere in the patient record. This demonstrated that the ‘PSAG Screen’ not only benefited services by reducing the time taken to find patient information, but also improved quality by displaying important patient information in a screen that was easier to locate. The ‘PSAG Screen’ negated the need for a practice phase, and so staff unfamiliar with the system could still save time by using the ‘PSAG screen’.

Methods of timing the ‘PSAG Screen’ trials also differed from team to team. Some service members timed themselves which raises issues of reliability, and others were timed by members of the *PCS* Team. This reduced the level of standardisation across services and may have impacted on the data. For example, although the majority of teams’ data was positively skewed in the ‘Before’ condition, two teams produced seemingly ‘random’ trends, and time actually increased for two of the teams (although not statistically significantly). Although all timings could have been carried out by a member of the *PCS* Team to increase standardisation, this would have contradicted the emphasis of the *PCS* programme authors, who encourage services to generate their own evidence in order to make improvements. Therefore in future implementations carrying out a similar timed exercise, ideally a staff member should be timed doing the exercise by another member of staff, under the supervision of their *PCS* Co-ordinator to ensure standardisation across services.

In terms of meaningfulness and reliability of the quantitative timing data, measures to maximise ecological validity were taken, as the recruited participants were staff members who would usually access patient information, and they carried out the exercise in situ. They were also encouraged to carry out the exercise on patient records as and when they were required to find patient information. However, it would be highly unlikely that in practice they would need to access all the information that they were required to locate (see page 131) during the timed exercise. So although there was a 62% reduction in the time taken to find patient information, in practice the impact of this reduction would be realised over a long time by accessing several patient records. Therefore although the exercise provided a guide as to the time saving produced, a more realistic and counterbalanced design would have given greater accuracy. These issues make it difficult to definitively conclude that the intervention increased productivity, but this conclusion is bolstered by the qualitative data which indicated that this was of benefit to users in various ways, including the saving of time.

The 'PSAG Screen' timed exercise also produced some unintended learning outcomes and demonstrated the benefits of employing *PCS* Team members with relevant IT skills. The level of knowledge and competency of staff members' SystmOne use was lower than originally estimated, and throughout the implementation there were often reports of staff members being very slow at carrying out computer processes. In addition to staff members learning a more efficient way to find information, the performance curve in the 'Before' condition indicated that the exercise enabled staff to learn that the information was available on SystmOne, where this information could be found, and maybe even improved staff members' dexterity with the computer mouse (which has been found to be a training need for nurses, Qiu and Yu, 2007). Therefore, although the repetitive design of the timed exercise led to issues, the finding that this method improved staff members' speed suggests that the format could be employed in future IT training for nurses. The implementation of the 'PSAG Screen' itself also demonstrated an effective innovation, which modernised the solution suggested by the programme authors to become relevant to the organisation's practice and technology. Damanpour (1996) found that centralisation (the degree with which higher management control the organisation) was negatively

correlated with innovation, and one of the PSAG Screen's enabling contexts was the *PCS* Project Manager's knowledge of the SystmOne software system and how it could be used to produce the PSAG Screen. The findings demonstrated how the *PCS* PM was able to implement this innovation because the low level of management control over this element of the programme allowed him to do so. This highlighted the benefit of including a knowledgeable member of the software support team within the composition of the *PCS* Team, and of allowing and enabling the team to have the freedom to be innovative with the innovation given to them.

The 'PSAG Screen' intervention was linked to a target set by the commissioners, which was a 10% reduction in the time taken to find patient information, which was achieved. In the previous chapter, it was noted that the method used to measure the commissioning target to reduce stock by 30% (the '5S Inventory Check') led to the generation of a one-off saving, rather than the implementation of processes to continue to keep stock low in the long term (see page 124). In the case of the PSAG Screen, this target was better addressed because there were new processes put in place (i.e. the installation of the PSAG Screen) so patient information could be found more quickly, not only during the PSAG timed exercise, but beyond the implementation. The problem identified in the qualitative data was that there were staff that did not know about the PSAG Screen, and so the time saving may not have been realised for all staff. Therefore this indicates that measures to satisfy pay-for-performance targets should not only acknowledge that processes have been put in place to make improvements, but should include a measurement to indicate firstly that staff are aware of these processes, and secondly they use them. This may be difficult to measure but would help ensure that the benefits of improvement initiatives are realised to their full potential in the organisation.

5.7 Conclusion

The implementation of the PSAG module found that the 'Interruptions Audit' generated few improvements and could not be used to demonstrate a reduction in interruptions, as a follow-up audit was not carried out after the initial audit. However the 'PSAG Screen' timed exercise indicated that the time

taken to find patient information in SystmOne was reduced by 62%, which surpassed the commissioning target of a 10% reduction. An End of Module Assessment found that 62% of respondents (n=40) reported that 'Working Efficiency' had improved to some extent since working through the PSAG module, and 28% (n=18) indicated that 'Working Procedures' had either noticeably or greatly improved. A framework analysis of the qualitative data using Realist Evaluation principles identified two main mechanisms for change that were used during the implementation; the 'Interruptions Audit' and the 'PSAG Screen'. The analysis identified that the Interruptions audit did not generate improvement in certain contexts, including those where the results of the audit were not discussed, those where the staff were not aware of how the audit was supposed to generate improvement, or those where staff felt interruptions were a necessary part of work. Contexts that were likely to lead to disappointment outcomes for the 'PSAG Screen' were those where staff did not know about the PSAG Screen, where the information on the 'PSAG Screen' was not relevant to clinical practice, and where other technological issues prevented the 'PSAG Screen' from being used, e.g. in patients' homes.

The findings have various implications for healthcare managers, implementation teams, and commissioners. For example, managers (and their staff) should ensure that if they are taking part in a change intervention and do not understand how that intervention is supposed to generate improvements, they should openly discuss this with their implementation facilitators to ensure that they have ample opportunity to benefit from the intervention, and resources aren't wasted. Similarly, implementation teams working in large and diverse organisations need to ensure that interventions are relevant to staff, that there is understanding of how interventions are supposed to make improvements, and that even if interventions have been piloted, they remain reflective and open to improving the implementation throughout the process so that it remains relevant and beneficial for different service contexts. Finally, in regards to commissioners, methods to determine the success or failure of commissioned targets should aim to encourage the awareness of improvement initiatives for staff, and the use of improvement initiatives for staff, so that the benefits of an improvement initiative are realised throughout the organisation.

Contribution to knowledge in Chapter 5:

- The use of the principles of Realist Evaluation enables a more detailed understanding of how and why the Patient Status at a Glance intervention had different impacts in different areas.
- Participant observation of the implementation in practice in addition to the analysis of interview data allows for more of the processes behind the programme's outcomes to be made explicit.
- The findings from this study demonstrate how an innovation can be reinvented to be made relevant to the context when implementation teams have the relevant skills available.
- The findings indicate that that pay-for-performance indicators do not always require measures of exposure and compliance. Including these factors might improve the spread of innovation.
- The findings suggest that piloting innovation in a few services may not be enough to ensure effective implementation. Implementation teams need to remain reflective and ready to change strategies when implementing change in multiple service contexts.

Chapter 6: Managing Caseload and Staffing

6 Introduction

This penultimate chapter uses a mixed-methods approach to examine the implementation of Module 4 of the *PCS* programme; the Managing Caseload And Staffing module (MCAS). Again, the quantitative outcomes are reported and discussed in terms of their reliability and meaningfulness, which provides a greater understanding of the issues that exist in organisations implementing innovations, and to highlight issues in the methods used during implementations that are not always apparent in published 'Anecdotal' (Wright and McSherry, 2013) reports. The identification of the contexts that constrained or enabled the change mechanisms during the implementation of this module aims to explain the processes that went on during the implementation to generate the quantitative outcomes. These findings will be discussed in relation to their implications for Implementation Teams and Managers. There were no specific commissioning targets linked to this module, however it was important to use this module as an example of implementing change, as it examines the measurement of time clinicians spend with patients, often referred to in the literature as 'Direct care time' (Wright and McSherry, 2013) or 'Patient-facing Time' (York Health Economics Consortium and NHS Institute for Innovation and Improvement, 2010), and knowing more about how much time clinicians spend with patients is important for workforce planning, patient experience and understanding how resources are being used in healthcare.

6.1 The Programme Theory

This module encourages better workforce planning in order to improve the management of caseload and staffing, or demand and capacity. In the programme material, an 'Absence Hours Chart' enables staff to see how many staffing hours were available to the service for the previous year, and how much of this time was lost due to annual leave, training, staff sickness and other leave. This data and the previous year's activity data also informs the service's 'Golden Rules'. These are rules which the service should

create to guide the allocation of leave over the forthcoming year. For example, if a Scheduled Therapy service knows that their busiest time of the year is during the Winter months due to the increased number of falls, one of their 'Golden Rules' might be that only two members of staff at any one time can take annual leave or carry out training during this period. The absence data and staff activity data from Module 2 also informs a 'Waterfall Diagram' which illustrates how the proportion of time available to staff is distributed across various activities (see Figure 23 below).

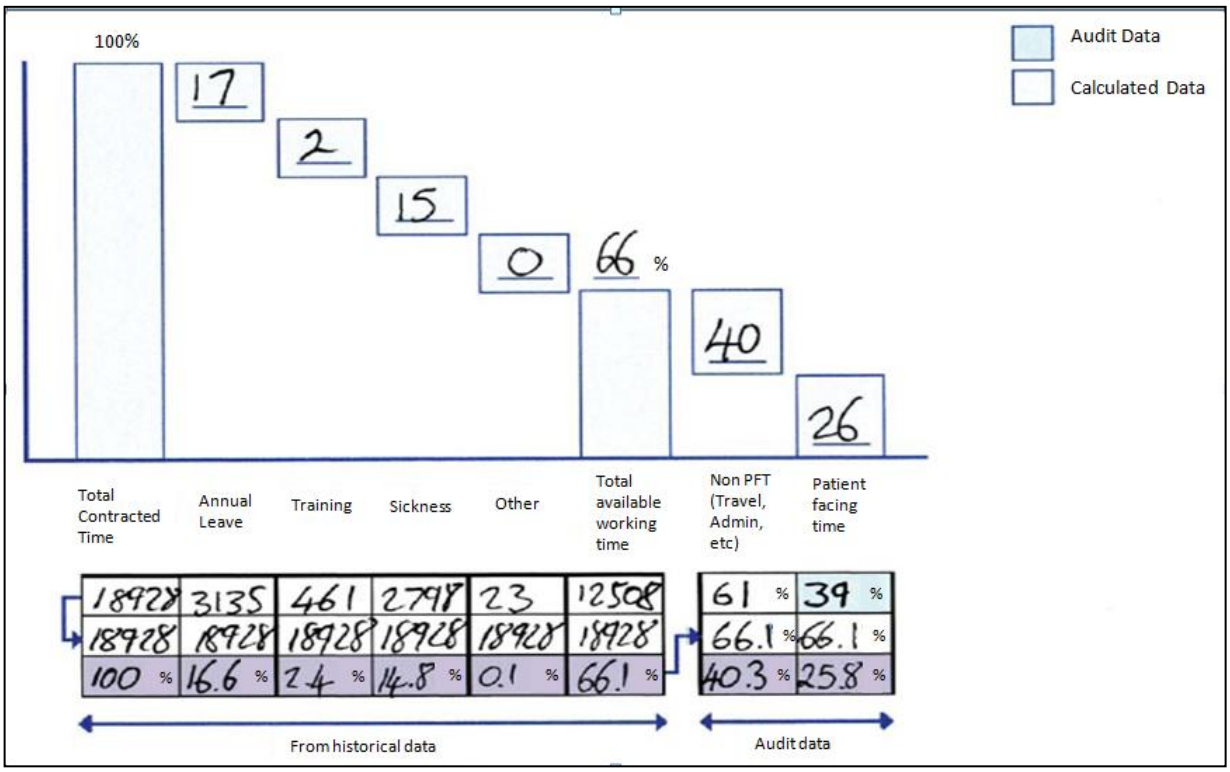


Figure 23: Example of a completed Waterfall diagram (NHSI, 2010c, p. 38)

In the example of the 'Waterfall Diagram' above taken from the MCAS module material (NHSI, 2010c), historical data indicated that 34% of staff members' contracted or available time was spent on annual leave, training, sickness and other leave. This left 66% of time available, which, based on exercises carried out during *PCS*, indicated that 40% of time was spent as non-Patient Facing Time (e.g. travelling or carrying out administrative duties), and only 26% was spent with patients.

Other tools such as the 'Weekly Tracker' and 'Staff Availability Planner' (see Appendix T) are provided to help plan resources for the following week and visually display the availability of staff. The 10-point checklist which indicates the objectives of the module is in Figure 24 below, and more information related to the Programme Theory is in NHSI (2010c):

10 point checklist Managing Caseload and Staffing
The team understand what proportion of team hours are left after training, holiday and sickness are deducted.
The team record how much holiday, sickness and training is used every week and month.
The team's holiday, sickness and training hours are displayed openly in the office for the whole team to see.
The team has an agreed strategy for how the team handle sickness, training and holiday over the year.
The team review holiday, sickness and training each week.
The team plan levels of holiday, sickness and training each week.
The team reduce how much training and holiday can be taken during busy times.
The team have an agreed set of actions when workload is beyond what the team has planned for.
The team have an agreed set of actions for when workload is below what the team has planned for.
The team actively plan training with their training department in line with their requirements.

Figure 24: Managing Caseload And Staffing 10-Point Checklist (NHSI, 2010c, p. 9)

6.2 The Implementation

This chapter reports on the implementation of the MCAS module in SACS, whereby *PCS* Co-ordinators met with services to record and review their existing Workload allocation processes. Initially, this data was to be collected by using process mapping as advised in the *PCS* material (NHS Institute for Innovation and Improvement, 2009), however it was agreed by the *PCS* PM that this could be written in prose form as the *PCS* Co-ordinators did not feel that process mapping was necessary and were unfamiliar with the method. Any 'Golden rules' (see above page 156) that were already in place were reviewed, or if not they were created. A 'Workload Analysis' (a time-in-motion-type study) was carried out, which informed an electronic 'Waterfall Diagram', which are described in more detail on page 158.

The *PCS* PM also designed a '*PCS* Excel Holiday Planner' in Microsoft Excel which enabled staff to record and monitor leave (see Figure 25).

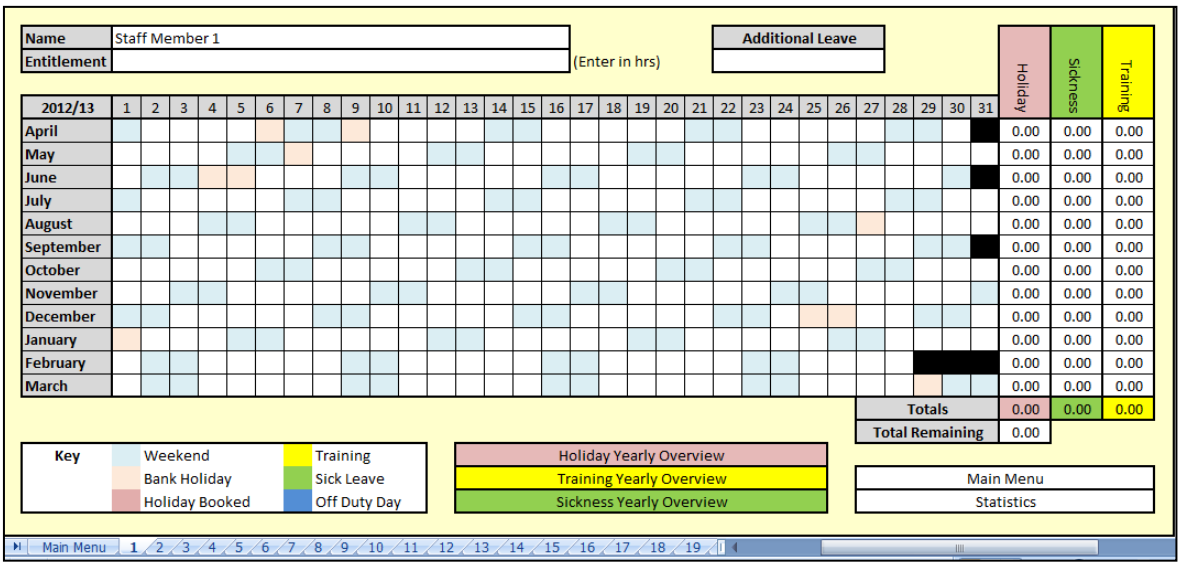


Figure 25: SACS PCS Holiday Planner - Staff Member view

6.3 Method

A mixed-methods explanatory sequential design (Creswell and Plano Clark, 2007) was used to examine the implementation of the MCAS module, firstly analysing the quantitative data generated during the implementation, and then analysing the qualitative data regarding the implementation of this module. This mixed-methods approach was employed in order to increase knowledge not just about the outcomes of the programme, but how those outcomes came about. The analysis was informed by the Researcher's participant observation, and more details regarding the programme implementation and the Researcher's methods are described below.

6.3.1 Quantitative Data

6.3.1.1 Workload Analysis and Waterfall Diagram

Rather than using the manual methods provided in the material to produce a 'Waterfall Diagram' that required handwritten arithmetic (see NHSI, 2010c), the *PCS* PM felt that it would be more efficient to use Microsoft Excel software to create something similar. The original programme material also advises

using absence data and staff activity data from Module 2 to inform the 'Waterfall Diagram', but the *PCS* PM decided to use other means to collect staff activity data. The *PCS* PM was not convinced of the accuracy of staff activity data recorded on the Electronic Patient Record software used by the organisation ('SystmOne'), so a 'Workload Analysis' exercise was carried out using pen and paper methods. For each service, this entailed one member employed in each job role or 'Agenda for Change' band[1] recording how their activity was distributed. This was categorised into five activities; face to face patient contact (direct face to face contact with patients), non-face to face patient contact (telephone contact with patients), travel, administration and 'Other'. These staff members were requested to record this information on a data collection sheet (see Appendix U) over a period of two 'normal' working days.

In addition to the 'Workload Analysis' data, the 'Waterfall Diagram' included available workforce data (e.g. the number of Full Time Equivalents for each 'Agenda for Change' band, excluding any zero contracts agency staff) and absence data provided by the Human Resources department (HR). Sickness leave was based on the sickness leave hours taken in the previous financial year (2010-2011), annual leave was based on the annual leave allocated for a staff member with five years of service, and training was based on 100 hours per year which was an estimate provided by HR. These were all adjusted as proportions of a working week, similarly to the original 'Waterfall Diagram' provided in the *PCS* material (see Figure 23, page 156). Once the electronic SACS 'Waterfall Diagram' (see Figure 26 below) had been created by the *PCS* PM, the results could be quickly generated for each service by entering data from the 'Workload Analysis' exercise and the data from HR into an Excel spreadsheet. Out of the 62 teams that took part in the *PCS* implementation, data was submitted by 50 teams (81%).

[1] The Agenda for Change or AfC is the system used to allocate job roles to pay bands for the majority of NHS staff (NHS Employers, 2013)

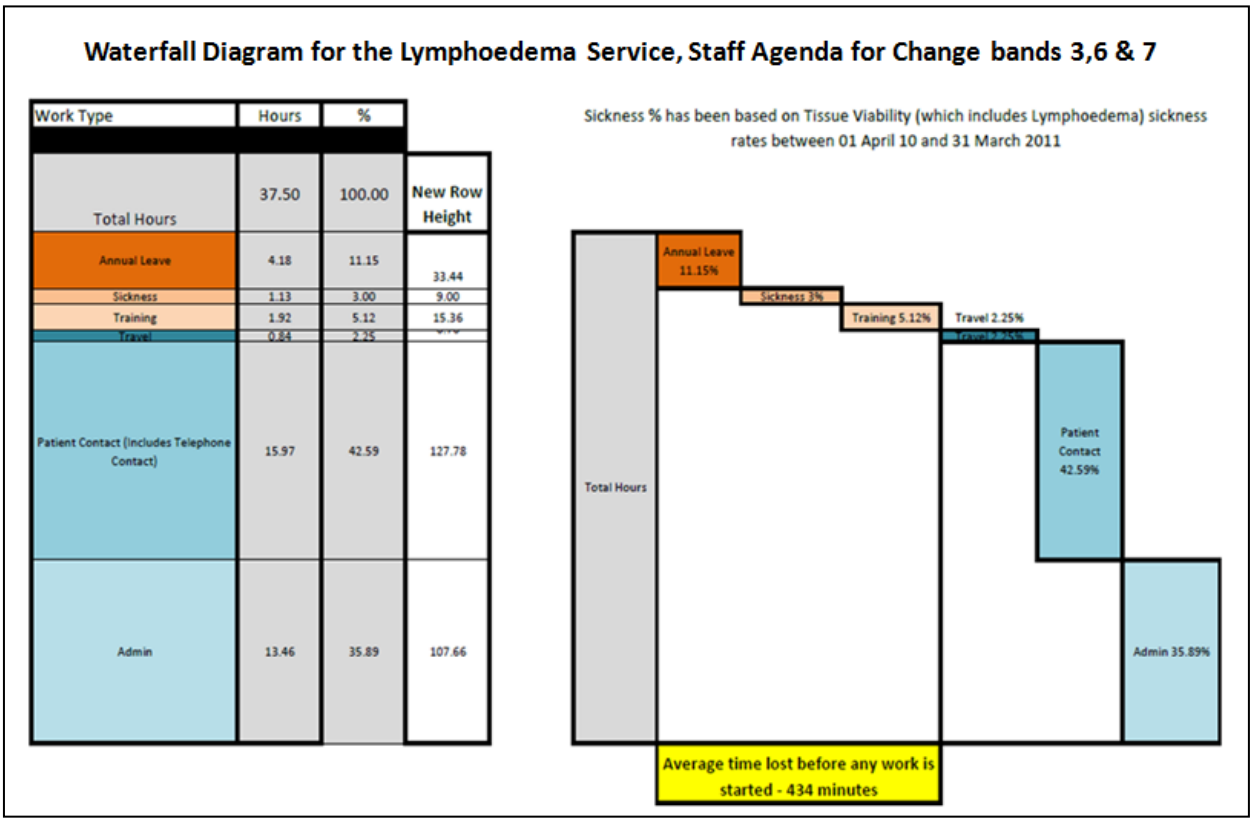


Figure 26: Example of the SACS version of the 'Waterfall Diagram' for the Lymphoedema team

Figure 26 above shows an example of the SACS 'Waterfall Diagram' for the Lymphoedema service. In this example, it can be seen that based on the 'Workload Analysis' exercise over two days, in an average week, 11.15% of time was spent on annual leave, 3% on sickness leave and 5.12% spent on training. 2.25% of time was spent travelling, 35.89% was spent carrying out administrative work, and the remainder, 42.59% was spent with patients. The SACS 'Waterfall Diagram' was intended to produce a baseline measure of workload distribution by carrying out the 'Workload Analysis' exercise towards the beginning of the implementation, and then capture a measure for comparison towards the end. However, due to time constraints and the *PCS* Team perceiving that a follow-up measure lacked relevance because of the little change that had taken place, only a cross-sectional snapshot of workload distribution was carried out.

6.3.1.2 Module Assessments

As the majority of the work in this chapter focuses on the Year 2 implementation, only the results of the Year 2 Module Assessments are reported on. Similarly to the previous chapter, MCAS Module Assessments during Year 2 were carried out towards the beginning of the module and towards the end, in order for a comparison to be made of services' agreement with the module's characteristics at both of these points. The one-tailed hypothesis was that there would be an increase in agreement with the module's standards (the 10-point checklist, see page 157) between these two points. Agreement with the module checklist items was measured using Likert items, and so following the same rationale as the previous chapter (see page 133), was analysed using a paired-sample t-test for the Likert data as a whole, and using the Wilcoxon signed-ranks test to examine each Likert item. According to calculations in Gpower software, 27 respondents were required in order to detect large effects with sufficient power ($r=0.5$, $1-\beta=0.80$, Cohen, 1988, 1992, cited in Field, 2005). So during Year 2, Beginning and End of Module Assessments (see Appendix J) were requested to be completed by at least the manager and one team member from each service. 74 Beginning of Module Assessments and 71 End of Module Assessments were submitted.

6.3.2 Qualitative Data

Framework Analysis (Spencer et al., 2014a) was used to analyse the content of the interview data and focus group data that related to the Managing Caseload and Staffing Module, and qualitative comments submitted on the Module 4 Assessments. The initial thematic framework was guided by the principles of Realist Evaluation (Greenhalgh et al., 2009; Pawson and Tilley, 1997), and the following Context-Mechanism-Outcome configuration was proposed (Figure 27):

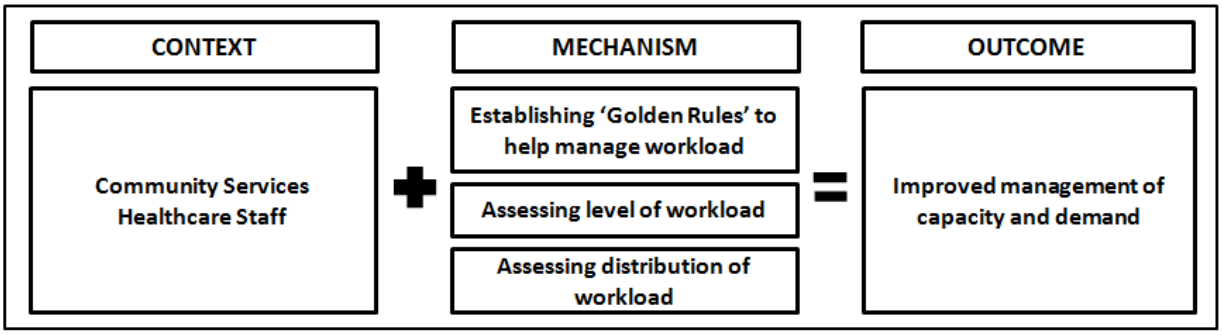


Figure 27: Predicted Context-Mechanism-Outcome configuration for the MCAS module

More information about the methods can be found in Chapter 2.

6.4 Quantitative Results

6.4.1 Year 2: 'Workload Analysis' and 'Waterfall Diagram'

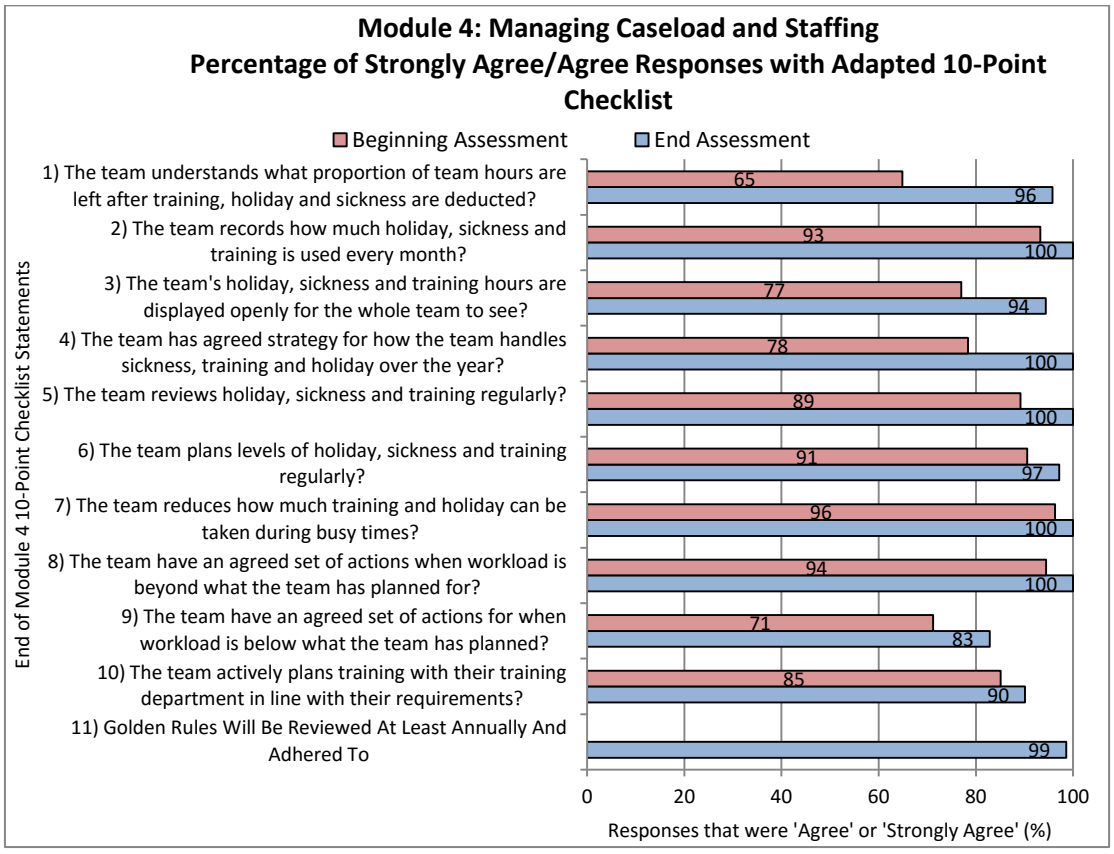
Graph 7 (page 163) displays the 'Workload Analysis' data calculated for each service that carried out this exercise during Year 1 and Year 2, which in turn informed services' Waterfall Diagrams. Based on the sickness data and guidance from Human Resources, the mean number of minutes 'lost' to annual leave, sickness or training was calculated to be 450 minutes (SD=56), which is 7.5 hours, or one day of every 'typical' 37.5 hour week. The mean number of minutes of patient contact was 800 minutes (SD=301), which is 13.3 hours, or 36% of every 'typical' 37.5 hour week.

Graph 7: Distribution of Staff Activity calculated using the 'Waterfall Diagram'

The service with the highest proportion of patient contact time was Podiatry (65%), and the lowest was Healthy Living (6%). The manager of the Healthy Living service did not provide an explanation for the low proportion of patient contact provided by the service, but as part of the participant observation it was observed that the Healthy Living service spent a lot of their time organising events to promote healthy lifestyles. If these events did not fall on the days when the activity was measured then this was not captured, which may explain why their patient contact time was so low. The graph is displayed so that similar services are grouped together, for example all the Locality team Health Visitors data can be seen at the top of the graph, which indicate that their patient contact time ranged from 22% (Area S) to 40% (Area D). Similarly it can be seen that the District Nursing teams' patient contact ranged from 26% (Area G) to 46% (Area D6). These variances of patient contact time within similar types of service suggest that there were different ways of working within service specialities.

6.4.2 Year 2: Module Assessment Results

Graph 8 shows the adapted 10-point checklist responses received in the Beginning of Module Assessment compared with the End of Module Assessment. Analysis using a paired-samples t-test found that the increase in agreement between the beginning of module assessment ($M=27.72$, $SE=0.38$) and the end of module assessment ($M=30.56$, $SE=0.50$) was statistically significant ($t(70)=-7.97, p<.01$). There was a large effect size ($r=0.69$) (Cohen, 1988, 1992, cited in Field, 2005).



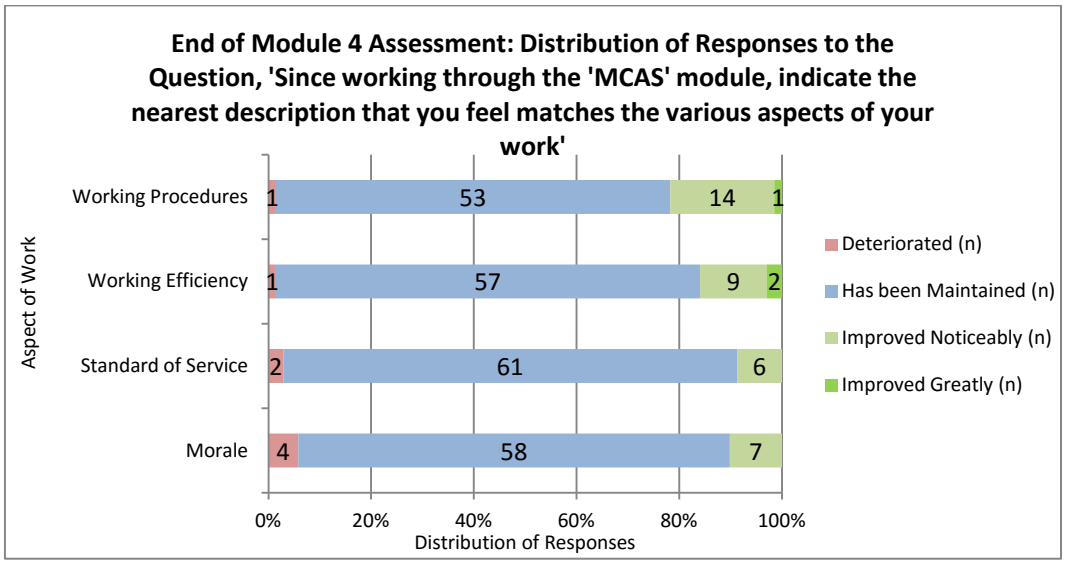
Graph 8: Year 2, Module 4, % of 'Strongly Agree' or 'Agree' responses to Module 4 Assessment
NB. Excludes 'Not Applicable' responses. Beginning Assessment, n = 54-74; End Assessment, n=51-71 (see Appendix R for number of responses for all statements)

Agreement increased for all statements, and a Wilcoxon Signed-Rank test found that this increase was statistically significant for all statements (see Table 8 for z and p-values).

Statement	*z*	p
1) The team understands what proportion of team hours are left after training, holiday and sickness are deducted	-4.700	<0.01
2) The team records how much holiday, sickness and training is used every month?	-4.315	<0.01
3) The team's holiday, sickness and training hours are displayed openly for the whole team to see	-5.038	<0.01
4) The team has agreed strategy for how the team handles sickness, training and holiday over the year	-5.385	<0.01
5) The team reviews holiday, sickness and training regularly?	-4.811	<0.01
6) The team plans levels of holiday, sickness and training regularly	-4.472	<0.01
7) The team reduces how much training and holiday can be taken during busy times	-2.460	<0.05
8) The team have an agreed set of actions when workload is beyond what the team has planned for	-3.000	<0.01
9) The team have an agreed set of actions for when workload is below what the team has planned	-2.676	<0.01
10) Golden Rules Will Be Reviewed at Least Annually and Adhered to	-3.800	<0.01

Table 8: z and p-values for Wilcoxon Signed-Rank tests on Year 2, Module 4 Assessments

The bar chart shown below summarises the responses regarding Aspects of Work:



Graph 9: Year 2, Responses relating to Aspects of Work for the End of Module 4 Assessment

Maintenance of these aspects was reported by the majority of services, however some level of improvement was also reported in all aspects, including 15 respondents (22%) who reported improvement of working procedures. However, Deterioration was also reported at a low level across all aspects, with the highest rating of Deterioration given in regards to morale (n=4, 6%).

6.5 Qualitative Results

Qualitative data was analysed to provide a greater understanding of the processes that went on during the implementation, which contributed towards the quantitative data reported above. Based on the programme theory, it was proposed that there were three main mechanisms of change in the MCAS module; 'Establishing 'Golden Rules' to help manage workload', 'Assessing level of workload', and 'Assessing distribution of workload' (see page 162). The qualitative analysis identified that there were four main sub-mechanisms in the data regarding the Managing Caseload and Staffing module; Measuring and graphically representing the distribution of staff activity using the 'Workload Analysis' and 'Waterfall Diagram', Reviewing or creating 'Golden Rules' to manage leave, Enabling staff to view and manage the allocation of leave through the '*PCS* Holiday Planner', and the Review of workload allocation processes. A visual representation of this analysis based on an adapted model by Greenhalgh et al. (2009) is presented in Figure 28 below.

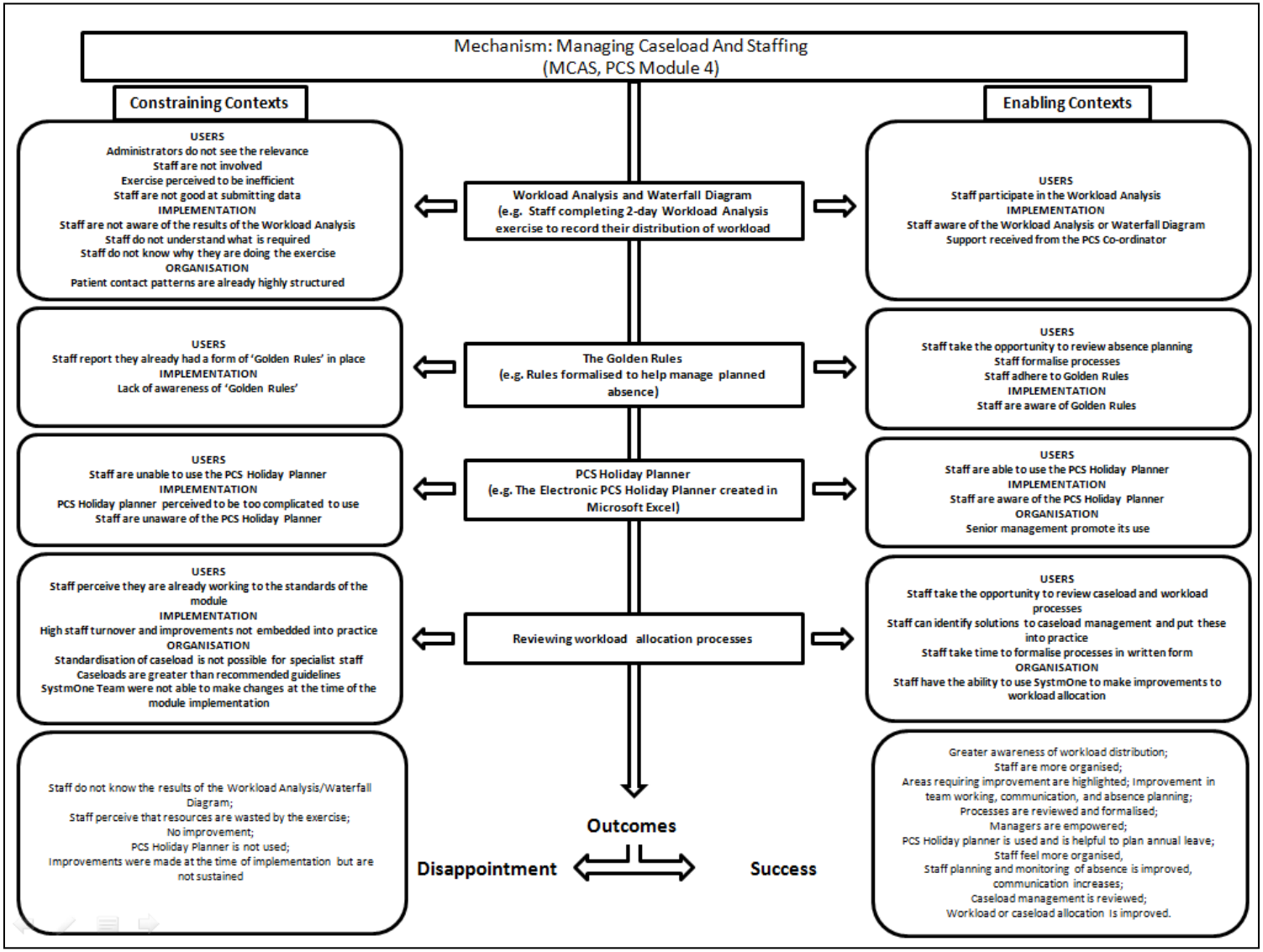


Figure 28: Contexts, Mechanisms and Outcomes of MCAS (model based on Greenhalgh et al., 2009)

6.5.1 The 'Workload Analysis'/'Waterfall Diagram' as a mechanism for change

This sub-mechanism was the measuring and graphically representing the distribution of staff activity, identified by talk about the 2-day 'Workload Analysis' exercise (whereby staff had to record their distribution of workload using hard copy forms that the *PCS* Team had created) and the SACS 'Waterfall Diagram' which displayed the results of the 'Workload Analysis'. In terms of success outcomes, staff reported a greater awareness of workload distribution, being more organised, and the exercise highlighted areas requiring improvement.

> *"...Our staffing levels got really low here...And, it was little things that, this picked up on like, I would go and get a meal or I would go and get the blood from the ward or the nurses would do the same...And the amount of time you wasted going up there... and back and if you're doing that twice a day, when the management actually saw that in hours it was like actually, there is not enough staff there...this has actually brought that..to light what they actually do do...Which is a good thing...But it's also brought to light, what people, weren't doing."*
>
> Administrative Team Member, Assessment and Rehabilitation Unit, 015

Contexts that enabled these success outcomes were where staff were aware of or participated in the 'Workload Analysis' exercise, and also where support was received from the *PCS* Co-ordinator to explain what was required:

> *"...I think it was the face to face and the non-face to face, was it the timing one?...When I read it, I read that three times and I thought what, what are they asking me to do?...And then, [PCS Co-ordinator 'C'] came down and said 'Oh [.] it's this this and this' and I was like 'Oh!'...Yeah, and sometimes it's...there in front of you but...you just need someone else to look over your shoulder going 'No that's what they're asking for.'"*
>
> Administrative Team Member, Assessment and Rehabilitation Unit, 015

However there were disappointment outcomes experienced, such as staff not knowing the outcomes of the exercise, perceiving that resources were wasted by the exercise, or where there was no improvement reported as a result:

> *"I had to get the staff writing down...how many visits...which actually you could have got all off of SystmOne anyway...So it was just like a, duplicate...Exercise...I can't bear repetition so w-why are they having to write something when they could already got (.) from SystmOne, if they had wanted...That sort of information...and then what changed because of it?...I don't know."*
>
> Clinical Team Member, District Nursing, 026

The contexts that were likely to lead to one or more of these disappointment outcomes included those where the results of the workload analysis did not reach staff, where particularly the administrators did

not perceive the relevance of the exercise for their roles, and where staff did not understand what they had to do for the exercise, or why they were doing it:

044: *...It was just a case of we've, we've got to fill this form in this this audit in for the, er, face to face non face to face...we were just told...for this day or for this period of time, fill this out and, so we did*
Intrvwr: *And was it sort of like told like why or like, yeah, why...?*
044: *Not in detail, to be honest...i-it may have been, mentioned at the time when PCS may have been mentioned but, to be honest it was so long ago I couldn't, really, remember how much detail they went into about why we're doing it...we just did it."*

Clinical Team Member, Scheduled Therapy, 044

Other constraining contexts included those where staff were not involved in the workload analysis, or where the exercise was perceived to be inefficient, where staff were not good at submitting data in general, and where the patient contact pattern was already very structured:

"...It's so kind of structured anyway... yo-you need to be a lot more, kind of, clever on how you, manage your time... we do like a lot of outcome measures now...so as well as doing SystmOne, writing our notes, sometimes maybe booking patients in, they have to fill like outcome measures during the initial assessment, and we've only got half an hour... So, you don't really get to spend an awful lot of time with the patient now... because of, 'cause we're scheduled everything's very neatly boxed anyway..."

Clinical Team Member, Scheduled Therapy, 028

6.5.2 The 'Golden Rules' as a mechanism for change

This sub-mechanism involved the reviewing or creating of 'Golden Rules' to help staff manage planned absence. Staff reported that this helped to improve team working, communication, absence planning, and formalised the process of absence planning:

"Communication is more effective and Golden rules are now part of induction."

District Nursing D10, End of Module 4 Assessment

The 'Golden Rules' exercise enabled absence planning to be reviewed, and the *PCS* Focus group spoke of how it empowered managers, particularly those new to the role:

"...one of the te-teams that I did, erm, band 6 had sort of come up into a different, role, and I think, lots of things around... the golden rules...she found that quite difficult to say, to erm, staff, 'oh you can only do this you can only do that', but because she was doing it under the guise of, the golden rules...it almost helped her it almost aided her...with her thing so I think it'd be erm, yeah I think it's good."

PCS Co-ordinator 'D', *PCS* Team Focus Group

The contexts that were identified as enabling these positive outcomes included those where staff took the opportunity to review absence planning and formalise previously informal processes, where staff were

aware that Golden Rules had been set up, and where staff adhered to the guidelines set out in the Golden Rules:

> *"...The golden rules for the annual leave, erm, was brilliant...'cause it gave people guidelines under which to work, although you will always get those people that try an-and, flout the rules."*
>
> Clinical Team Member, District Nursing, 042

However some staff did not experience any improvement as a result of the Golden Rules being set up, particularly in contexts that already had a form of 'Golden Rules' in place, or for those teams that were not aware of the 'Golden Rules':

> *"...I don't know if other teams adopted those golden rules 'cause somebody did actually ask me for them the other day and they said they'd never heard of them so...in terms of erm [.] sort of passing information on I I don't think that, was done 'cause we set up some quite good, rules here."*
>
> Clinical Team Member, District Nursing, 042

6.5.3 The 'PCS Holiday Planner' as a mechanism for change

This sub-mechanism was the enabling of staff to view and manage the allocation of leave through the Excel tool set up by the *PCS* Project Manager, the '*PCS* Holiday Planner'. In terms of success outcomes, the *PCS* Holiday Planner was used by staff and found to be useful in the planning of annual leave, it helped with organisation and increased communication:

> *"By using the PCS planner everyone can see the plan and we are more organised."*
>
> Immunisations Team, End of Module 4 Assessment

Staff noted that it improved the monitoring of absence and staff planning, and was an improved method of managing staff:

> *"PCS planner was a big help and made managing the staff clearer and easier."*
>
> District Nurse Liaison and Assessment Service, End of Module 4 Assessment

The contexts that enabled success outcomes included those where staff were aware of the *PCS* Holiday Planner and had the ability to use it, and also where management promoted its use, even beyond the *PCS* implementation:

> *"I didn't really get involved with that at that time but then since then [the PA to the Head of Service] has sent us, the planner that, [the PCS Project Manager] set up? ...That records everything sick leave, erm holiday, training...So I started using that for this year...Which is good for me...And will be good for [the manager] 'cause she can see things at a glance...although that was mentioned and we didn't do it, at the time...We are now doing it."*
>
> Administrative Team Member, Paediatric Occupational Therapy and Physiotherapy, 007

However in some contexts the *PCS* Holiday Planner was not used, for example where it was seen to be too complicated to use for managing part time staff, where staff were unable to use the planner (although it was not stated why this was the case), or where staff were unaware of it. The following comment was noted on the End of Module Assessment which indicates that the service had not seen the *PCS* Holiday Planner by the end of the module's implementation:

> ***"****The team have looked at how they record [Annual Leave] etc and would like to look at an electronic version.****"***
>
> Tier 2 ENT & Audiology, End of Module 4 Assessment

6.5.4 Review of Workload Allocation Processes as a mechanism for change

This sub-mechanism was identified by talk about the outcomes and contexts related to the review of workload allocation processes that took place. Success outcomes included improved workload or caseload allocation, improved communication, and the formalisation of processes:

> *"The team had an opportunity to assess how the team operate at present and as a result made some changes to the induction pack. It also gave the team time to look at areas that there were verbal agreements and made them more permanent"*
>
> District Nursing D10, End of Module 4 Assessment

The contexts that enabled improvements to be made were where staff took the opportunity to review caseload and workload processes, and took the time to formalise processes that had previously been in place verbally. Success outcomes also occurred where staff had the ability to use SystmOne to make improvements to workload allocation, and were able to identify solutions to caseload management and put these into practice:

> *"Workload now allocated via [SystmOne] and printed for staff member. Caseload now according to GP surgery and feels more manageable. At present the triage nurse allocates but the team leads will be doing this in the future."*
>
> District Nursing [Area E], End of Module 4 Assessment

However other staff experienced disappointment outcomes from the MCAS module, where there was no improvement in caseload/workload management, or where improvements were made at the time but had not been sustained. On being asked whether they felt that *PCS* had been a success, one interviewee responded:

> *"At the time yes...But...we've had a lot of staff, turnover so, the work that we did around, erm, annual leave, golden rules about erm, workload planning...all those sorts of things have been forgotten about...because we've now got new staff in, erm [.] who are working in slightly different ways."*
> Clinical Team Member, District Nursing, 042

Contexts where staff experienced disappointment outcomes included those where the standardisation of caseload advocated by the module could not be applied in specialist services, and where caseloads were greater than recommended guidance:

> *"...Apparently we should be having, a caseload of about four hundred each as a whole time equivalent... caseloads are just ridiculous...most of us are working at eight hundred odd...I mean there just hasn't been the staff...If you haven't got the staff you can't do it."*
> Clinical Team Member, Health Visiting, 029

In contexts where there was high staff turnover, staff indicated that improvements made during the implementation were not sustained. However, this could have also been due to the service not embedding processes during the implementation so that changes could continue despite the departure of staff from the service. In contexts where work in SystmOne was still due to be carried out to help improve caseload management (e.g. adding staff diaries to SystmOne), and where staff perceived they were already working to the standards of the module, improvement was not reported:

> *"There were no benefits as we were already working like this anyway."*
> Parkinsons Service, End of Module 4 Assessment

6.6 Discussion

The aims of this study were to examine the meaningfulness and reliability of quantitative data generated during the implementation of the Managing Caseload and Staffing module. Additionally, it sought to expose the processes of the implementation that generated the quantitative data, by identifying the enabling and constraining contexts that partnered with the mechanisms of change. This section will examine the findings in relation to previous research and discuss the implication of these findings for healthcare managers and implementation teams.

The quantitative results of the 'Workload Analysis' indicated that services only spent an average of 36% of their working week with patients (face to face or via telephone). Although *Productive Ward* implementations have found baseline patient contact time to be similarly low (e.g. 26% in Bloodworth, 2011; less than 30% in Smith and Rudd, 2010), these are not easily comparable due to the different way of working in an acute setting versus the community, and the differing calculation methods used, so it is difficult to know how this compares with other community organisations' patient contact time.

However, the results should be treated with caution as there were some limitations to the method used which impacts on the reliability and meaningfulness of the data. For example, the data were differentiated by Agenda for Change (AfC) banding during Year 2, however, as the amount of patient contact is not always determined by AfC bands, this may not have represented the services accurately. The Full Time Equivalent capacity of services data did not include agency staff on zero contracted hours, and the 'Workload Analysis' should have been carried out by staff from all AfC bands within each service, however due to time constraints this was not always achieved, producing an incomplete picture. Also, although the electronic Waterfall Calculator designed by the *PCS* PM was arguably more efficient than the method offered by the programme authors, some of its assumptions compromised the results. For example, the same amount of training and annual leave hours were allocated to all services, so variances such as FTE or length of service were not taken into account. In addition, the calculations were based on a 37.5 hour week rather than actual hours worked, however many nurses work in excess of their contracted hours (Sheward et al., 2005). The calculated patient contact time might also have been reduced as, although the 'Workload Analysis' was supposed to be carried out on a 'normal' working day, there were occasions where staff were on training or leave for part of these days. Any training or leave taken during the data collection period would have been duplicated, and any patient contact time that staff would have performed on the day, had they not been on leave, was not included. In the Productive Ward programme, patient contact time is calculated using an 'Activity Follow' exercise, whereby a staff member follows a clinician and records their activity in a very detailed way over the course of just one hour (NHSI, 2008b), although this can be increased to 12 hours (NHSI, 2008a, p. 81).However, in this implementation,

administrators also took part in the process, and the qualitative analysis identified that administrators felt that this 'Workload Analysis' was not relevant to their role. Due to this inclusion of administrators, patient contact time was measured per service rather than per clinician, which would have increased the proportion of administration and decreased the proportion of patient contact time. These limitations in the calculation of the patient contact time suggest that although the *PCS* Team created a more efficient method of generating the results of the Workload Analysis, the data has several issues with reliability and meaningfulness. Implementation teams should be careful that when reinventing (Greenhalgh et al., 2004) innovations, data integrity is not lost.

However, a significant omission in the implementation was the failure to collect at least two measures to provide comparative data. The task proved difficult to co-ordinate, with some teams not completing the exercise until very late on in the implementation, and the *PCS* Co-ordinators reported that there were minimal changes that had occurred due to *PCS*. Therefore it was decided that this exercise would merely act as a 'snapshot' for each service, in order to create an awareness of time spent in contact with patients. From this perspective, the tool was a success as the *PCS* Co-ordinators reported that often when they fed the results back to the teams, they seemed to engage with this. However, it was apparent from the interview data that the dissemination of this data did not always reach all of the team members (page 168). Handley and Cooney, 1992, cited in Petro-Nustas (1996) put forward a model in which the feedback of data from change agent to staff members is a necessary step in the process of organisational development, and observational and interview data suggests that this part of the process was often missing for some members of staff.

Issues of communication about the programme have been identified in previous chapters (see page 85 and 142), and again was identified as an issue during this module. Another point to consider is that the *PCS* material suggests that the patient contact time data for the waterfall diagram is taken from central organisational reporting (NHSI, 2009d). For the organisation under study this would have been data from the software system SystmOne. However, this data was not used as the *PCS* PM did not trust the accuracy

of the data, which is why staff were made to record this data using manual methods. This duplication (i.e. recording staff activity on SystmOne *and* using manual methods) was identified by staff as a waste of resources (see page 168). If the organisational data from SystmOne had been used, then due to the reporting mechanisms in SystmOne, patient contact time measures could have been reported monthly or even weekly for teams. Even though this may have suffered with inaccurate data initially, highlighting this to teams may have motivated them to improve their recording to become more accurate, as well as eventually providing comparable productivity data during the implementation. Again, this reinvention of the *PCS* programme disadvantaged both the implementation team and staff, and so implementation teams should be wary of reinventing innovations without considering the impact this may have.

It is also worth thinking about the meaningfulness of measuring patient contact time. Parasuraman (2002) submitted the following conceptual framework (see Figure 29 below) which demonstrates how factors in a service context interact:

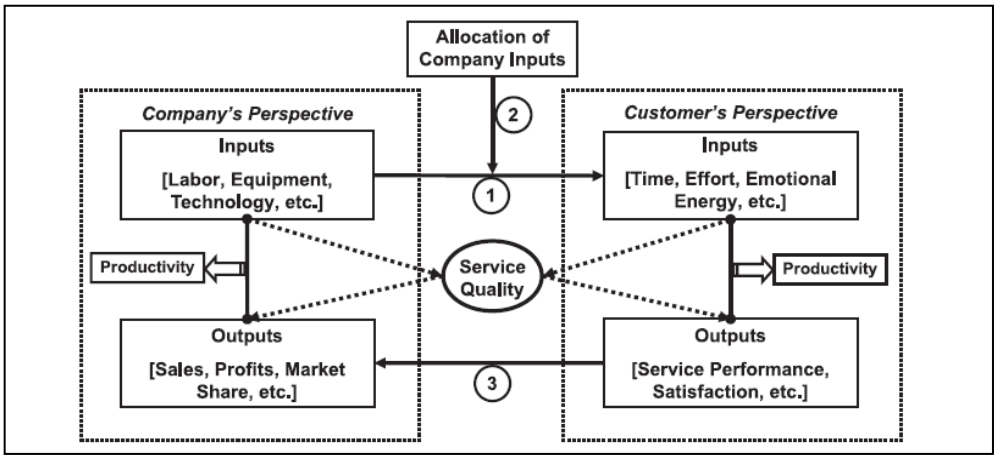


Figure 29: The interplay between service quality and productivity (Parasuraman, 2002, p. 8)

Parasuraman (2002) explains that the outputs referred to in this framework are framed in 'broad terms' such as patient outcomes and quality measures, rather than in 'narrow terms' such as number of visits. Therefore fewer visits of a higher quality, organised using greater quality processes may still be viewed as more productive than a greater number of visits of a lower quality, when viewing outputs in 'broad terms'. This then questions the meaningfulness of measuring patient contact time, which is a key measure of *Productive Series* programmes due its aim of 'Releasing time to care™'. Based on Parasuraman's

perspective, this is not the ideal output measure of productivity for a healthcare organisation, and lends support to the Payment by Results principle used in the acute setting which is more focused on patient outcomes (see Farrar et al., 2009) that Community Services organisations are progressing towards. This reinforces Callard, 2009, cited in National Nursing Research Unit and NHS Institute for Innovation and Improvement (2010b) who proposes that the aim of the programme should not be just to release time to care, but to create time for effective care.

In regards to the general module aims to assess and improve workload allocation processes, only a small number of teams (15%) made improvements, and the Module Assessment indicated that for the majority of respondents, aspects of work remained the same despite the module work (see page 166). The qualitative analysis indicated that one of the contexts in which services didn't experience improvement was where the service perceived that they were already working to the standards of the module. Although improving workload allocation processes may not have been necessary for some services, it was observed that although Process Mapping was advocated by the programme authors (NHS Institute for Innovation and Improvement, 2009), the method was not used during the implementation, as the *PCS* Co-ordinators did not have experience of process mapping and did not feel it was necessary. Process Mapping can be used as an improvement intervention, where all aspects of a process are graphically represented in order to see where wasted processes can be removed (Savory and Olson, 2001). Without the use of this tool, the analysis that took place often consisted of the *PCS* Co-ordinators meeting with the service manager, asking them what the process was and whether this needed changing. If managers did not experience the process on a day-to-day basis, they may have been unaware of any existing issues, so this would have benefited from including team members in the process to give their perspectives. Use of Process Mapping may have generated more comprehensive data, more constructive analysis, and would have also equipped and empowered both the *PCS* Co-ordinators and the service staff members for future analysis of processes. Although it cannot be concluded that processes did not change because process mapping wasn't used, the use of process mapping or other tools widely used in service improvement may have enabled a more thorough assessment process in order for improvements to be made. A learning point for

future implementations is that implementation teams should ensure that they are equipped with and ready to use the relevant tools so that they can facilitate services in providing effective review processes for generating improvements.

In looking at the qualitative analysis to identify the contexts in which the mechanisms for change were successful or not, some of the findings reinforce previous research. For instance, enabling contexts included those where the *PCS* Co-ordinator supported staff to understand the intervention where it could not be previously understood (e.g. the 'Workload Analysis'). Mayon-White (1993) draws on the theory of transactional analysis (see Berne, 1968) to describe the ideal relationship that should occur between the change facilitator and the organisational member, which should be adult to adult, and notes that the organisational member should seek information from the facilitator, and the facilitator should not issue directives to organisational members. In this example, the organisational member was willing to seek information from a facilitator, and the facilitator was able to help. Another finding supported by other research is that a lack of communication has been found to hinder the dissemination and potential improvement from innovations such as the Productive Ward (National Nursing Research Unit and NHS Institute for Innovation and Improvement, 2010a). A lack of communication was identified in this analysis to be one of the contexts where change was constrained, and has also been identified in previous chapters (see page 85 and 142).

Other contexts that have affected the implementation have also been identified in previous chapters, such as whether staff were aware of the module work (page 86), whether they understood why they were doing the work (page 87), and whether staff perceived they were already achieving the standards required (page 98). However one enabling context that occurred that has not been previously demonstrated was the management engagement which enabled the use of an intervention (the *PCS* Holiday Planner), beyond the implementation's conclusion. The Well Organised Working Environment chapter found that managers supported staff by allocating resources to carry out the '5S Sort' (see page 116), and the Framework Analysis chapter found that managers did not know about module work their staff were carrying out

which incurred wasted time for staff (see page 82). However this analysis found that a service had not received the *PCS* Holiday Planner from the Implementation team, the senior manager's knowledge of the intervention and assumed opinion of its relative advantage (Greenhalgh et al., 2004) enabled her to promote and disseminate it, which enabled teams to take advantage of it. Research by the National Nursing Research Unit and NHS Institute for Innovation and Improvement (2010b) proposed that support and encouragement from senior leaders was the most important factor required for the success of Productive Ward implementations. The results of this analysis similarly highlights the importance of good communication between the implementation teams and managers in healthcare organisations, so that managers are aware of the benefits of innovations and so can promote their use.

6.7 Conclusion

The 'Workload Analysis' and 'Waterfall Diagram' implemented during the MCAS module found that service staff in SACS spent on average 36% of every week with patients. However, similarly to the PSAG module's 'Interruptions Audit', only one measure of the 'Workload Analysis' could be carried out rather than the two intended, so it could not be ascertained whether patient contact time increased during the course of the *PCS* implementation or not. This was partly due to two reasons; firstly because the exercise was difficult to co-ordinate among services as the *PCS* Team changed the exercise so that staff had to manually write down their workload activity even though they already recorded their activity in their patient record software system, and secondly because it was perceived by *PCS* Team that little had changed among services so there was little point in carrying out the measure a second time. Discussion about 'Workload Analysis' using observational data identified that if the *PCS* Team had not reinvented the exercise in certain ways, then more measures could have been taken. It was also identified that tools provided in the material such as Process Mapping were not used for assessment of workload allocation processes, and it was argued that this may have reduced the opportunity for a thorough assessment of processes, so that if change was required, this was not identified.

The meaningfulness and reliability of patient contact time was also examined. It was found that although the *PCS* Team reinvented the 'Waterfall Diagram' to generate results more efficiently than the method proposed by the programme authors, there were various shortcomings such as the inclusion of administrators time, duplication of measures such as annual leave and sickness, and assumptions used that were not specific to the different services. Lack of fidelity with the programme material was likely to have affected the results, therefore making it difficult to compare the results with other implementations of the same programme. Implementation teams should therefore be wary of reinventing innovations of the affect this may have on data integrity.

There were also some results from the Module Assessments that appeared to contradict each other. For instance although agreement with the module's standards increased statistically significantly for all standards (indicating significant change took place during the module implementation to achieve these standards where they weren't achieved previously), at least 77% of respondents to the Module Assessment indicated that aspects of work remained the same since working through the MCAS module. A Framework Analysis carried out on qualitative data identified the different mechanisms for change at work during the implementation, and the different contexts that were likely to have led to these different outcomes. Four sub-mechanisms were identified; Measuring and graphically representing the distribution of staff activity; Reviewing or creating 'Golden Rules' to manage leave, Enabling staff to view and manage the allocation of leave through the *PCS* Holiday Planner, and the Review of Workload Allocation Processes. Enabling contexts included those where staff took time and the opportunity given by the module's implementation to review processes, where solutions to issues were identified and put into practice, and where senior management advocated the use of the innovation. This highlighted the importance of senior management engagement in innovations that has been highlighted in previous research. Contexts which constrained change included those where staff did not understand what was required of the module work, and where staff did not know why they were carrying out the module work. This highlighted the importance of implementation teams of communicating and engaging staff so that they understand why work is being carried out so that resources are not wasted.

Contribution to knowledge in Chapter 6:

- The use of the principles of Realist Evaluation enables a more detailed understanding of how and why the Managing Caseload and Staffing intervention had different impacts in different areas.
- Participant observation of the implementation in practice in addition to the analysis of interview data allows for more of the processes behind the programme's outcomes to be made explicit.
- The findings suggest that patient contact time reported in programmes like the *Productive Series* is not a straightforward measure and should be interpreted with caution.
- The findings indicate that when implementation teams reinvent innovations to fit context, while solving some problems they may generate others.
- The findings suggest that teams that are temporarily employed within organisations to implement innovations are not always fully equipped or confident to use the improvement tools available.

Chapter 7: Discussion and Conclusion

7 Introduction

When commencing the research for this thesis in 2010, the Department of Health was calling for the NHS to release up to £20 billion of efficiency savings by 2014 (DoH, 2010a). In 2014, NHS England (2014b) reported that if no efficiency savings were made, then by 2020/21 there would be a shortfall in NHS funding of £30 billion (if funding for the NHS rises at the rate of inflation, King's Fund, 2015). It has also recently been reported that the Department of Health are about to resource a five-year project for five NHS Trusts to receive expertise from the American non-profit healthcare organisation Virginia Mason, which includes the use of Lean methods (Clover, 2015). So there is still recognition within the NHS that new strategies are required to help change healthcare organisations in order to reduce waste and become more efficient, which makes this research very relevant for the healthcare sector today. Even though the organisation under study is no longer part of the NHS, it is still a qualified provider of NHS services, and as 'Any Qualified Provider' may tender for NHS services (Reynolds and McKee, 2012) this research is relevant for both NHS and non-NHS healthcare organisations.

The literature review at the beginning of this thesis found that there has been much research into organisational change, quality improvement and innovation. However there was a paucity of research into the *Productive Community Services* programme. This provided a rationale for an investigation of the implementation of this programme in a community healthcare organisation. The research questions posed were:

1. What were the perceptions of healthcare staff that implemented the Productive Community Services?
2. To what extent are the quantitative data generated during Productive Series programmes meaningful and reliable?
3. What contexts constrain or enable change during the implementation of community healthcare innovations?
4. What are the implications of these findings for managers, implementation teams and commissioners in healthcare?

These questions have been investigated through the use of participant observation, semi-structured interviews, a focus group, and the analysis of quantitative and qualitative data generated during the implementation. Based on the findings, this thesis proposes that implementing change effectively through commissioned, internally-led innovation in healthcare is fraught with difficulties. This is true even when the innovation is reinvented to fit the context, positive outcomes are reported, and resources are provided. This final chapter will explore how the findings from the previous chapters have addressed the research questions. The limitations of the study will then be discussed, followed by recommendations for future research. The research questions will now be addressed in turn.

7.1 Research Question 1: What were the perceptions of healthcare staff that implemented the Productive Community Services programme?

The study in Chapter 3 sought to address research question 1 by analysing the semi-structured interviews with staff members of a community healthcare organisation implementing the *PCS* programme, and a focus group with members of the implementation team. Framework analysis (Spencer et al., 2014a) identified five main themes and 33 subthemes in the data, which provided a sense of the perceptions of the staff implementing the programme. The analysis found that the perceptions of staff varied widely. Those who perceived the programme to be a positive innovation reported benefits to staff (for instance in feeling better in their improved working environments, see page 78), and to their work (for example where time was saved in finding patient information, see page 91). There were also those who spoke negatively about the programme and felt disadvantaged by it. For example, there appeared to be a lack of communication (page 85), awareness (page 86) and understanding (page 87) about the programme. Many issues affected the programme such as staff turnover (page 95), or problems with Information Technology (page 97), and many staff felt that the programme was not relevant to their context (page 97).

The perspectives of staff highlight the complexity of implementing change in a community healthcare organisation. Issues with communication, understanding about the programme, and perceptions of the

programme's relevancy, among many others, highlight the many considerations required for the effective implementation of change. Many of these issues were particularly relevant to community healthcare organisations as opposed to the acute sector. For example, making the programme relevant for staff might be a more complex process for community services, where the variation of service specialisms is likely to be high compared with an acute setting. Not only do staff work more independently and over a wider geographical radius in a community setting, but the nature of community healthcare is likely to include different models of care ranging from preventative or health promotion work, to nursing services and different still, therapy services. This highlights a need for further research particularly on the implementation of change innovations in community healthcare in addition to the acute sector.

In Chapter 2, various typologies of change are described, so it is of interest to explore what type of change occurred in the organisation as a result of *PCS*, by referring to the perceptions of staff. Arguably the *PCS* programme aims to be a 'Transformational' change (Porras and Robertson, 1992 op cit.); a planned change leading to second-order change, where the organisational system (NHSI, 2011a op cit.) changes to reflect the ethos of *PCS*. Additionally, it aims to be a planned change which evolves into continuous change led from the bottom up (Bouckenooghe, 2010 op cit.). Instead, the framework analysis in Chapter 3 suggests that the programme's effects were more piecemeal, with some 'islands of improvement' (National Nursing Research Unit and NHS Institute for Innovation and Improvement, 2010a) but in the main having a low impact on the organisation. As the programme was implemented over two years and a low impact and lack of awareness of *PCS* was identified, this suggests that 'decoupling' took place, where "...compliance with external expectations is merely symbolic rather than substantive, leaving the original relations or practices within an organization largely intact and unchanged," (Han and Koo, 2010, p. 31). A similar concept is 'Ceremonial adoption', the, "...formal adoption of a practice on the part of a recipient unit's employees for legitimacy reasons, without their believing in its real value for the organisation," (Kostova and Roth, 2002, p. 220). Van den Broek et al. (2014) also found this to have occurred in an implementation of the *PW* programme in the Netherlands, and notes that this is a problem as belief in the programme's value is required for the innovation to be

sustained (Kostova and Roth, 2002; Van den Broek et al., 2014). So despite the resources allocated to the implementation, although there were elements of improvement experienced by some staff, the organisation as a whole did not change to the extent of that expected by the programme developers, who describe the programme as, "...an organisation-wide change programme which helps systematic engagement of all front line teams in improving quality and productivity," (NHSI, 2011a).

The findings from Chapter 3 provide a greater understanding about the experience of staff implementing change in community healthcare, and further implications of these findings for healthcare staff are explored below (see page 190). The approach taken in the chapter provides an overall impression of the implementation, however it was difficult to specifically identify why the experience differed so greatly between staff. This problem provided the rationale for Chapters 4, 5 and 6 to look more closely at the specific mechanisms identified in the programme, and the different contexts that led to different outcomes for staff.

7.2 Research Question 2: To what extent are the quantitative data generated during Productive Series programmes meaningful and reliable?

Chapters 4-6 used mixed method studies to examine quantitative data generated during the implementation of Modules 1,3 and 4, and the qualitative data from interviews about the modules. In answer to research question 2, the studies found that there were many ways in which the quantitative data reported lacked meaning and were unreliable. For example, data from the WOWE '5S Inventory Sort' in Chapter 4 indicated that approximately £42,500 had apparently been 'saved' by the organisation, however there were many aspects of the implementation method that made this figure unreliable because the cost of products were not validated, and qualitative data found that staff were not always truthful about the data submitted (see page 115). Equally, the meaningfulness of the figures was brought into question as the value included items that had expired or were discarded, so was not a true saving (page 123). Wright and McSherry (2013) categorised most of the Productive Ward articles in their systematic literature review as 'Anecdotal', which they define as "Journalistic articles which tend to briefly explain the

structure of the programme and present headline findings such as a significant improvement in a specific performance measure," (Wright and McSherry, 2013, p. 1364). The 'saving' of over £42,500 was published in the organisation's internal progress report, and had the organisation been asked to provide information for an 'Anecdotal' type of report by the NHSI, this figure would have probably been provided. In addition, it was found that although the figure saved by the Swap Shop initiative was substantial, there were some 'hidden costs' that were not reported in the internal progress report (page 123), which again if published anecdotally, would have been misleading.

In Chapter 5 the results of the 'PSAG Screen' timed exercise indicated a 62% reduction in the time taken to find patient information in SystmOne. Again these were seen to be unreliable due to the method used (e.g. many staff timed themselves, see page 132) and lacking in meaningfulness (e.g. as actual benefits to staff in regards to time savings would be spread out over a long period of time, see page 151). However, although the design was flawed, it did identify the lack of a performance curve in the 'PSAG Screen' condition which otherwise may not have been apparent (see page 136). Again this could have been reported in an 'Anecdotal' report where the processes behind the figure would not need to be explicit and issues of meaningfulness not explored. In addition, previous research on *PCS* has also found relatively small amounts of time saved (e.g. YHEC and NHSI (2010) suggested that time savings made through the programme could increase the duration of patient visits from 28 to 35.7 minutes on average). These small savings may mean that staff may only notice the cumulative benefits from the programme, and may not perceive a benefit from the time saved by individual exercises. As also proposed in Chapter 3 (see page 93), this indicates that in implementations of programmes such as the *Productive Series* or Lean, there is likely to be a need for many initiatives to be carried out in order for staff to perceive the innovation's 'Relative Advantage' (Greenhalgh et al., 2004; Rogers, 2003) from the cumulative effect.

The quantitative data collected during Module 4 (see Chapter 6) indicated that services spent an average of 36% of their working week in contact with patients (face to face or via telephone). There were numerous issues with the reliability of this figure (e.g. the duration of leave or training in some instances

was duplicated during data collection) and meaningfulness (e.g. the inclusion of administrators' time). Again this highlights the issues that might be associated with figures published in 'Anecdotal' reports but are not made explicit. This also raises the question of whether Patient Contact Time is a meaningful measure at all. Although one of the main premises of the programme is to increase time spent with patients, the programme authors emphasise that this should be an increase specifically in Patient Facing Time. This might be identified as a tension between the *PCS* Programme Theory and community practice, as the *PCS* PM recognised that a lot of work in the Community takes place over the telephone, and so the definition was changed to Patient Contact Time. Although the programme authors give examples of innovations that increase productivity by treating patients remotely (Module 8 includes a best practice example of a telehealth system being used, see NHSI, 2010b, pp. 62-63), they do not clearly explain how or whether this remote type of Patient Contact Time should be acknowledged, even though it is likely to impact on productivity in 'narrow' terms (page 175), as it reduces the travel required to visit the patient.

In addition, an increase in Patient Contact Time in itself may not increase productivity if the intervention carried out during that time is ineffective. This supports the argument to measure care based on patient outcomes rather than staff activity (see Vallance-Owen, 2015), although arguably the ideal to work towards is to maximise both the time spent with patients *and* the effectiveness of interventions. As the programme authors try to address both of these aspects, in theory the programme as a whole should be beneficial to patients and staff. In practice, although patient experience data was collected during Module 8, no data relating to patient clinical outcomes was collected, so it was not known whether the programme had contributed to an increase in the effectiveness of interventions. Implementations of efficiency programmes in healthcare should therefore ensure that key clinical outcomes are measured, alongside any measures of Patient Contact Time, to ensure that clinical effectiveness is not being compromised by 'Leaner' processes.

The findings from these chapters highlight the importance of carrying out research on change or improvement innovations in healthcare so that the processes behind outcome figures are made explicit.

The findings also highlight the need of increasing access to this research. The 'Anecdotal' reports of these initiatives often served as advertisements for the programme (see page 13) however it would be more helpful for healthcare staff to be able to access not only the anecdotally reported outcomes of the programme, but the learnings and recommendations from the implementations. Reports including these do exist (for example see Bloodworth, 2009), but appear to be rare. Therefore the implementation and publication of this research (e.g.Bradley and Griffin, 2015) makes a valuable contribution to the healthcare field.

7.3 Research Question 3: What contexts constrain or enable change during the implementation of community healthcare innovations?

Qualitative analysis used in Chapters 4-6 identified the specific mechanisms of change that were used within the implementation of *PCS* modules 1, 3 and 4, along with disappointment and success outcomes and constraining or enabling contexts at play. Research question 3 requires understanding about the contexts of the change; the conditions and relationships in the organisation that worked with the mechanisms to affect the effectiveness of the intervention (Pawson, 2006). Over the three qualitative analyses in Chapters 4-6, contexts could be split into four areas; those to do with the users or staff members, those to do with the organisation, those to do with the implementation; and those to do with technology. It is acknowledged that aspects were not always exclusive to one area (e.g. page 119, where service personnel often changes which reduces the likelihood of success, this may have also been due to the implementation team not helping the service put in systems to address this issue). Although the level of detail of the contexts, mechanisms and outcomes described in each chapter will be useful to those implementing *PCS* and other change innovations in future, in order to synthesise the results as advised in Pawson and Tilley (1997), the cumulative analysis can be seen in Figure 30 (see page 189).

In applying the findings to practice, it is important to note that the contexts are not necessarily to be seen as ingredients necessary for the change innovation to effective, but more as aspects that should be considered when implementing change in healthcare. For example, the 'move of premises' was found to

be an enabling factor for some services implementing the WOWE module. This is not proposing that a move of premises is required for success, but that if services are moving premises, they should revisit the WOWE module as it is likely that implementing the '5S's' at the same time will lead to successful outcomes, as efficiency can be thought about from the start. Similarly, where 'Consistent personnel' was shown to be more likely to enable positive outcomes, this is not to suggest that teams should change their working structures so that there are less changes of staff (although this may be an advantage). Rather, those teams with constantly changing personnel may need to work harder to embed the improved processes than those teams with personnel who seldom change. The findings highlight that there are some contexts in which change will be more difficult than others that cannot be easily rectified, and so highlight areas that are likely to need greater investment in time and resources.

Over the course of the three chapters, it was also found that similar contexts constrained mechanisms again and again (e.g. issues with relevance on page 115 and page 169; and communication on page 142 and page 171). This might be expected at the user-, organisational- and technological-levels, as these are more enduring contexts, but the actual implementation arguably had more flexibility to evolve during the process. This highlighted the benefit of using a 'true' Realist Evaluation framework which aims to identify the mechanisms, contexts and outcomes at play in cycles so that aspects of the implementation can be improved during the process (see Greenhalgh et al., 2009). With the *Productive Series* programmes being structured in a modular manner and being rolled out over multiple organisations, this suggests that a Realist Evaluation would be a useful approach to take in future evaluation of *Productive Series* programmes.

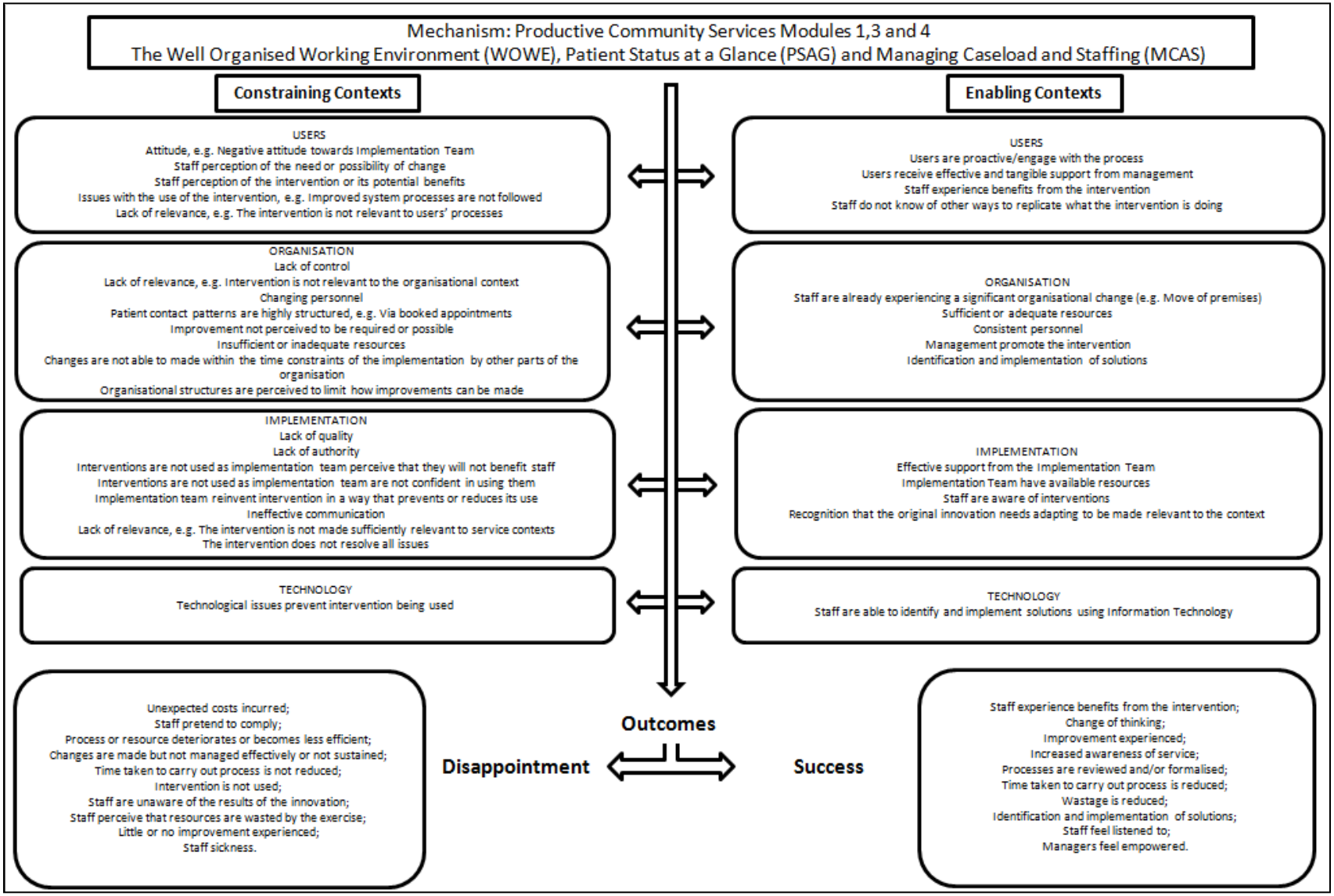


Figure 30: Cumulative Contexts, Mechanisms and Outcomes based on model by Greenhalgh et al. (2009)

One aspect identified from the studies was that not all the mechanisms available in the *PCS* material were used (e.g. see page 124), which was partly due to time constraints and partly due the interpretation of the *PCS* Team of what was required from the *PCS* material to achieve the commissioners targets. This indicates that there was a lack of fidelity with the programme which makes it difficult to evaluate like for like with another organisation's implementation of the programme. However, the analysis here that has broken the implementation down into its key mechanisms means that parts of the programme might be able to be more easily compared with other parts of other implementations. This suggests that research reports about change innovations would benefit from explicitly stating the mechanisms that have been identified in the implementation, rather than just referring to the programme theory used, as this may not be one and the same.

7.4 Research Question 4: What are the implications of these findings for managers, implementation teams and commissioners in healthcare?

There are various stakeholders in the implementation of change in healthcare, ranging from commissioners, to clinicians, and to patients. This thesis has examined the implementation of a change programme in healthcare which has helped to identify various learning points and considerations required for three key stakeholders; healthcare managers, implementation teams, and commissioners. The following section discusses the implications for these stakeholders as a result of the findings in each chapter.

7.4.1 Implications for senior leaders and managers in healthcare

For senior leaders and managers of healthcare organisations, the findings from Chapter 3 are important as they indicate that even though a programme such as *PCS* can be resourced with an implementation team and prioritised in the organisation, there are many other aspects that need to be considered to ensure that there is a return on the investment made. These aspects include having an experienced and effective implementation team, having effective communication about the programme in the organisation, and

targets that are relevant to the services and promote sustained improvement. For managers in healthcare, the findings indicate that their support of staff needs to be observable (page 101), and that if they feel that their staff are having to implement work because it has to be done rather than for its' benefits to patients or the service (page 101), then they should be able to challenge the implementation team and make changes to make the work more relevant. However, as indicated above, this is easier said than done when the implementation team believes that certain work has to be carried out to achieve commissioned targets. In the *Productive Series* literature there is talk about improving communication and processes 'from board to ward' (e.g. National Nursing Research Unit and NHS Institute for Innovation and Improvement, 2010b), representing the highest part of the organisation to the frontline staff. With the increased role of commissioning in healthcare, this line now needs extending beyond the managing board of the organisation to commissioners, so that what is being commissioned is relevant to the staff at the frontline and more importantly, is beneficial for the patients they care for.

Analysis in Chapter 4 found that although resources were invested in the *PCS* programme by way of providing an implementation team, there was a lack of resources within the clinical services to be able to carry out *PCS* work, such as the '5S' Stock Inventory, effectively (see page 115). As staff shortages in the NHS are reported, both in the acute sector (see Francis, 2013) and community (see Foot et al., 2014), this finding is timely and demonstrates the difficulty in needing to innovate to become more efficient with insufficient staff resources. Currently, most healthcare organisations, "...have very little capacity to analyse, monitor, or learn from safety and quality information," (Berwick, 2013, p. 27), which is, at its essence, what the *PCS* programme aims to achieve. Therefore although this appears to be an inherent problem at a macro-level in healthcare, to start addressing this at the micro-level, it was proposed that managers needed to be aware that there may be a significant investment required during improvement innovations in order to create benefits and improvements later on down the line. The issue with this is that it can be difficult for managers to know whether an innovation is worth investing in, particularly when using initiatives that are new to the organisation. With the pressures of waiting lists and contract expectations, there needs to be open communication lines between commissioners and managers so that

options can be discussed, so that for instance, managers feel able to negotiate with their service's commissioners or management boards as to whether it would be acceptable for patient contacts to be reduced while staff invest time in making improvements that might increase patient contacts in future, or improve "patterns of care" (NHS England, 2014a, p. 5). This might also be improved with more communication between commissioners of CQUIN and service commissioners, if they are different.

In Chapter 5, it was identified that staff did not understand what was required for the 'Interruptions Audit', and so not only were they not able to make improvements, but wasted time carrying out the audit incorrectly. It was concluded that managers and their staff should challenge Implementation Teams if they don't understand exactly how an intervention is going to make improvements. One of the features identified as being required for the spread and sustainability of service improvement is allowing staff to stop and reflect on their processes (National Nursing Research Unit and NHS Institute for Innovation and Improvement, 2010a), particularly in regards to efficiency and purpose, yet in the implementation, staff were given this additional task to do (the 'Interruptions Audit') and had no understanding of why they were doing it or what benefit might come from it. This indicates issues with the communication between Implementation team, and managers and their staff. Senior leaders and managers should ensure that their staff have a voice and feel able to exercise it, and that they have time to reflect on processes in order to improve them. However, it can be perceived that it is more time consuming to challenge and address an issue than to just 'get on with it', and more 'organisational slack' (Damanpour, 1987) may give staff more space to take time initially to save time later on down the line. Again, staff shortages and high demand in healthcare make this a difficult prospect. As referred to on page 125, this also highlights the tension of aiming to reduce slack in organisations through initiatives like *PCS* and Lean which may also reduce the organisation's ability for innovation to thrive (Nohria and Gulati, 1996).

7.4.2 Implications for Implementation Teams in healthcare

In Chapter 3, it was identified that managers and implementation teams should ensure that there is effective communication not only about the programme, but that there is clear communication when

improvements occur directly as a result of a programme, to help with more accurately evaluating a programme's impact. As there were many factors identified that were likely to have reduced the effectiveness of the implementation (e.g. lack of communication), it was also suggested that managers and implementation teams should work hard to mediate these factors so that individuals have a greater likelihood of engaging with the programme. It was also found that managers were not always engaged in the programme, and as previous research emphasises the importance of tangible support from managers (White et al., 2013; Wilson, 2009) it was proposed that implementation teams should ensure that they invest in engaging managers in the process.

One of the key findings highlighted by the *PCS* implementation team's focus group was that although the commissioning process enabled the programme to be implemented in the organisation through the provision of funding, the commissioned targets, or the way the targets were manifested through the programme, led to the programme not being relevant to some services. There was often more emphasis on achieving the commissioned targets than on making sustainable improvements, and one did not always lead to the other. The implication of this for implementation teams of pay-for-performance schemes is that they should ensure that the methods used to achieve the targets are relevant to services and promote sustained improvement.

The findings from Chapter 3 also suggest that implementation teams would benefit from having some experience in implementing change, as it is not something that 'just happens' but is a complex process that requires many considerations. This is not to say that the implementation team did not plan the rollout of modules effectively, but issues such as ineffective communication and the recognition that the programme was not relevant to services was discovered by the implementation team at the end of the process (as evidenced in the focus group data, see page 97). The implementation team will have learnt from the process, but they would have benefited from that learning for this implementation. The findings also highlight the need to make this learning accessible to implementation teams. The *PCS* material contains plenty of guidance that may have improved the implementation (e.g. noting the importance of

engaging managers and team members in discussing the programme, see NHSI, 2009f, p. 20), but due to many reasons (e.g. time constraints, increased emphasis on completing the commissioned targets, and the *PCS* Team feeling the *PCS* material was too long-winded), there was little reference made to the *PCS* material during the implementation. The *Productive Series* programmes are designed to be led internally by organisations, but this study has shown that provision of the material and resources to implement the material does not guarantee that implementation teams will adhere to it, or effectively implement it.

The qualitative analysis in Chapter 4 identified that potential mechanisms for change in the WOWE module (e.g. timing and tracking movements around the work area) were usually not carried out as the *PCS* Team didn't feel that staff would engage with them. This again may have been different had members of the *PCS* Team had experience with change initiatives before, but the chapter concludes that implementation teams should not let their preconceptions about innovations and staff stop them from experimenting with interventions that may be of benefit (see page 122). However other parts of the analysis highlighted two other scenarios – those where *PCS* work was carried out but was not relevant to services (see page 97), and those where staff did not expect there to be benefits before carrying out *PCS* work, but then experienced them (see page 91). This indicates that there needs to be a certain level of flexibility among all parties when assessing the resources to be invested into innovation. Previous research on the Productive Ward that found that allowing teams to choose the modules to implement for their different contexts gave them a sense of ownership and involvement (Morrow et al., 2012). However this implementation was inflexible, as the modules and order of module implementation was dictated to staff. Had the services been able to choose which modules were most relevant to them, their implementation of them may have been more effective. This suggests that Implementation Teams should allow flexibility so that staff are empowered to choose the areas of practice they need to address.

In Chapter 5, it was proposed that Implementation teams would benefit from having some expertise in Information Technology, as this enabled the relevant reinvention of the PSAG Board into the PSAG Screen. The results also found that staff carried out the 'Interruptions Audit' incorrectly as they did not

understand it, and that it was not made relevant to some roles (e.g. administrators). Therefore it was recommended that Implementation Teams ensure that they remain reflective in order to keep innovations effective and relevant for staff in different service contexts. This also highlights the importance of implementation teams sharing their learning with other organisations, as highlighting these issues may prevent other organisations making the same mistakes. In Chapter 3 it was identified that there was a lack of knowledge transfer (Berta et al., 2005) to the implementation team (see page 102), and the literature review noted that there was a bias towards the publication of positive results (Wright and McSherry, 2013), and both of these issues have the potential to reduce the effectiveness of an implementation because the Implementation Team or organisations are not aware of the challenges in implementations that need to be considered. However, Bate and Robert, 2006, cited in National Nursing Research Unit and NHS Institute for Innovation and Improvement (2010a) note that the increased competition in healthcare can promote inward-looking innovation, where organisations become less inclined to share achievements in order to keep up the appearance that they are performing well. The Researcher proposes that because of the increased competition in healthcare (Sturgeon, 2014), organisations may have less motivation to share learning with other organisations, who were once allies within the NHS, but who are now their potential competitors. It would therefore be interesting to see how the healthcare innovation literature evolves in the coming years as a result of the NHS becoming increasingly fragmented.

In the qualitative analysis of data in Chapter 6, it was identified that the *PCS* Team adapted the original guidance in the material by changing the method of data collection and data analysis (see page 160). Although this enabled the data to be analysed more efficiently, the data collection process became more arduous for staff, there were various shortcomings with the reliability of the data (see above, page 184), and the lack of data resulted in only one measure being taken. This raises the point of programme fidelity, and we see here that lack of adherence (Allen et al., 2012) with the programme's advice contributed towards this. The *PCS* PM changed the process for two main reasons; because the original programme material appeared long-winded, as it advised using hand-written calculations rather than using an Excel spreadsheet, and because there was a lack of trust in the accuracy of the data recorded in the

organisational software system, SystmOne. This suggests that innovations like *PCS* would benefit from being provided in an electronic format and a manual format, so that those unfamiliar with computers can benefit, but also so that those that can use computers can take advantage. This also suggests that although IT systems have been increasingly used to record patient data and staff activity over the last decade (Waterson, 2014) there are still doubts about its accuracy and this should be borne in mind when assessing studies that use software such as SystmOne to collect staff activity data.

This has highlighted a tension, as on the one hand, implementation teams are advised to make innovations relevant to the context (in this instance, the PM felt that in this context, organisational data was less accurate than manually collected data), yet this decision had a negative impact on the innovation itself. Similarly, the PSAG Board was reinvented as the 'PSAG Screen' by the *PCS* Team to fit the context, but had successful outcomes. This shows how difficult it is for implementation teams to get it right, and that because it is often unknown how the context will affect the success of the mechanism, there is an element of experimentation required. Again this reinforces the need for implementation teams to pilot innovations and remain flexible to service contexts. This also again reinforces the benefit of using Realist Evaluation which addresses contextual variation.

7.4.3 Implications for Commissioners in healthcare

For commissioners, the findings from Chapter 3 highlight how commissioned targets can affect an implementation. There was no data collected directly from the commissioners themselves, however the data analysed indicated that even though the *PCS* implementation team were told by staff that the targets were not always relevant for them, they were persuaded to comply with irrelevant work regardless, as they were part of the commissioned requirements. The main issue identified in the data in this chapter arose because in the main, generic targets were given that were not service-specific. It is important to note that this may have been less of an issue for an implementation of the Productive Ward, as it could be argued that wards of different specialities are relatively contained and have many working aspects in common with each other. However the study here found that the diversity of specialities (or the high level

of functional differentiation, Kimberly and Evanisko, 1981) in a community service setting was not appropriately addressed in the generic targets given by the commissioners, or more specifically, in the generic way that the programme was rolled out to accommodate the targets set by the commissioners. In this sense, this could be attributed to the implementation team, as they decided how the programme should be rolled out in order to achieve the commissioning targets. However, commissioners should still continually check that their targets are relevant and if possible, remain flexible so that if they aren't seen to be relevant, they can be adjusted to be made relevant to services. This reinforces recommendations that pay-for-performance measures, "...should be reevaluated periodically and be replaced or updated as necessary," (Eijkenaar, 2013, p. 127).

The analysis in Chapter 4 identified that the commissioners' target of reducing stock by 30% led to staff trying to generate a one-off saving, when it would have been more beneficial for the target to be more process-oriented so that processes were put into place to continue to keep stock levels at a minimum beyond the conclusion of the implementation. The *PCS* Team incorporated a process (e.g. encouraging staff to implement minimum and maximum stock levels) but this was not mandated by the commissioners (and was not in the original *PCS* material). Again the focus on the one-off saving might have been down to the *PCS* Team's interpretation of how this target should have been implemented, particularly as this was the method advocated in the *PCS* materials, but this did highlight that achievement of the commissioned target did not promote continuous improvement. This highlighted the need for change programmes like *PCS* to be implemented with a perspective of sustaining the improvements made, not just for the duration of the initiative but beyond, so that improvements becomes embedded in organisational practice.

However, in Chapter 5, it was proposed that this challenge was largely met by the process that was used to satisfy the commissioning target of saving 10% of time taken to find patient information. The implementation of the 'PSAG Screen' ensured that a process was available in the software system which had the potential to continue to minimise the time taken to find patient information. However the

qualitative analysis found that staff were not always aware of the screen and so did not gain the potential benefits from it. This indicated that within pay-for-performance targets it would be useful to measure the exposure of the intervention to staff, and how much they use it, to ensure staff are aware of it and have a greater understanding of its impact. In addition, that there was a sustained process put in place for this one-off target and not for the WOWE target suggests that it is not just the targets that are salient, but what is put in place to achieve those targets. There may also be a difference between commissioning for short-term projects such as a programme implementation, and ongoing commissioning, for example for service contracts. Where ongoing contracts are commissioned, Key Performance Indicators might be reported monthly, whereas in this short-term project (e.g. one year), there was only one measure required. This suggests that short-term projects would benefit from regular periodical reporting as early as possible, to reflect that ongoing processes are being put in place that can be sustained beyond the programme implementation.

Although this discussion argues for more process-oriented targets, these could be argued to be implicit in the targets requiring all teams to 'complete' the programme to varying levels (see target 1a,1b, 2a and 2b on page 59). This was to be measured using self-evaluations completed by staff which took the form of the module assessments, and this target was achieved as it was evidenced that members of staff from the relevant services completed a module assessment. However, the module assessments were not used to assess the fidelity, or particularly the quality of delivery (Carroll et al., 2007) of the implementation. So for example, only 64% of staff agreed that 'Regular and random audits [were] conducted against the standard operating procedures to make sure the changes [were] maintained' (see page 113), which indicated that this aspect, an important part of sustaining the improvements made (NHSI, 2009f), was not in place for 36% of respondents. If quality of delivery was measured as part of the assessment, this might have encouraged the implementation team to ensure that more of the processes from the modules were embedded in services' practice. This discussion highlights the complexity of the commissioning process, and how it is important for commissioners to collaborate effectively with implementation teams,

managers and frontline staff in order to effect change that promotes continuous high quality care for patients and efficient processes for staff.

7.5 Future research

There is still an urgent need to increase efficiency for the NHS and providers of NHS services, and the *Productive Series* was created by the Government's arms-length body the NHS Institute for Improvement and Innovation to help address this need. Many positive outcomes have been reported in the small body of literature available on the *Productive Series* programmes. However, the evidence from this piece of research has shown that even though some positive outcomes were reported, the values of the programme, that of the process of continually assessing, reflecting on and improving practice, were not embedded into practice for the majority of staff.

The findings raise questions as to how knowledge can be transferred more effectively to implementation teams, particularly those who are seconded internally within organisations for short term change programmes, and also looking at how the skill-mix of implementation teams can affect the implementation, and the engagement of frontline staff. The pay-for-performance targets seemed to act as a distraction from the main goals of the programme, and so focus on the commissioning process for *Productive Series* programmes or similar improvement programmes would also be of benefit, specifically looking at how top-down targets affect the effectiveness of programmes that are designed to be led from the bottom-up. The evaluation of *Productive Series* programmes using Realist Evaluation (Greenhalgh et al., 2009) would also be a beneficial direction of research, and over the coming years it would be of interest to see how the increased competition in the English NHS affects the healthcare innovation literature.

It is complex to implement change in organisations, but if organisations cannot get the fundamentals right (e.g. communication, and ensuring innovations are relevant to users as identified in this research), then the change is only ever going to be transient, and costly. Research needs to continue to identify ways of

helping organisations take advantage of programmes such as the *Productive Community Services*, and making them work at a substantive, rather than a superficial level.

7.6 Limitations

The complete implementation required 6 *PCS* modules to be implemented in the majority of services, and 9 modules to be implemented in six services (see page 45). Due to length limitations, this thesis only reports on three of those modules in detail, however the absence of the other module reports may in some part be substituted by the framework analysis in Chapter 3, which gives an overview of the implementation of all modules. In addition, in Module 1 (WOWE) the feedback using the modules' 10-point checklist did not incorporate a measure at the beginning of the module so could not capture increased agreement as a result of implementing the module. The Aspects of Work measure was also biased towards responses of improvement rather than deterioration as there were two categories of improvement and only one of deterioration. The 10-point checklist measure was improved in the second implementation year to capture a 'before' measure for services, but these are acknowledged as weaknesses in the study design.

With regards to the Framework Analysis and the qualitative analysis in Chapters 4 to 6, one researcher carried out the Framework Analysis, and a 'critical friend' (McGrath and O'Toole, 2012) read the written report. Spencer et al. (2014a) argues that the aim of qualitative analysis is not to create a generalisable coding system, but to create a report that reflects the phenomenon under study, so inter-rater reliability with another coder was not measured. With regards to the sampling method used to recruit participants, although a snowballing strategy was used to recruit participants not known to the researcher, this sampling method can create bias as, for example, participants with wider social networks are more likely to be recruited, and those that are recruited may have similar attitudes or experiences to those recruiting them (Welch, 1975). In addition, that the researcher had taken part in the implementation may also

suggest bias, however the participant observation work formed an important contextual backdrop to the analysis.

A few evaluative models were considered for this study, including RE-AIM (assessing Reach, Effectiveness, Adoption, Implementation and Maintenance, see Kessler et al., 2012), and the CDC Framework (Centers for Disease Control and Prevention, 1999), which was originally used by the Researcher to evaluate the programme. However, RE-AIM was more appropriate for disease management and health promotion interventions (Kessler et al., 2012) and was seen to be too resource-intensive for the study's scope. Similarly the CDC Framework was better-suited to evaluate public health interventions (Centers for Disease Control and Prevention, 1999). Therefore, on receiving peer review it was felt that Realist Evaluation would be a more appropriate evaluation model, as it addresses complex interventions in social systems (Berwick, 2008) such as the *PCS* programme. It was also seen to be more helpful as it would facilitate the identification of the influencing contexts of the programme to inform other potential adopters, and has been used to evaluate Lean-based change in healthcare (see Greenhalgh et al., 2009). However, this study was not a complete realist evaluation, as it did not capture changes to contexts over time and make improvements during the implementation, and outcomes were based on staff perceptions rather than objective measures. In addition, similarly to Greenhalgh et al. (2009) the Researcher acknowledges that identifying isolated 'mechanisms' and 'contexts' does not reflect the complexity of the change process, but is required in order to be useful for analysis and summarising the findings. However, this study has addressed one round of the Realist Evaluation cycle (Pawson and Tilley, 1997) and has enabled a greater understanding of how and why the *PCS* programme had varying impacts in different areas, which will help to inform future implementations of *PCS* and other similar improvement programmes.

7.7 Conclusion

Due to various factors including an increasingly ageing population and a struggling economy, the healthcare system in England is in need of identifying ways to become more efficient while providing

high quality care. In 2009, the NHSI designed the *Productive Series*; a set of programmes for use in various healthcare contexts that bring quality improvement principles together, so that front-line staff can effect change and become more productive and efficient. This study used a mixed-methods approach to investigate an implementation of the *Productive Community Services* programme in East Anglia, England. It aimed to examine staff perspectives of the implementation, to identify the constraining and enabling contexts that partnered with the mechanisms of the programme to effect change, and to examine the quantitative data generated during the programme in terms of their meaningfulness and reliability. It also sought to discuss the implications of these findings for managers, implementation teams and commissioners in healthcare.

The Framework Analysis of interviews with staff in the organisation and a focus group with the implementation team found that perspectives of the implementation varied widely between staff, with some reporting positive results and benefits, while others indicated the implementation was to their detriment. The issues identified suggested that there is a need to improve knowledge transfer to implementation teams, and that the way the programme was commissioned affected the implementation process. Mixed methods studies on three of the *PCS* modules found that money was reported to be saved (over £42,500 during the WOWE module), time was reported to be saved (62% of time saved during the PSAG module), and patient contact time as a proportion of a working week was identified (36% on average during the MCAS module). However, there were various issues with the meaningfulness and reliability of these figures, such as the use of data that were not validated, the lack of meaningfulness in terms of the quantitative impact of the time saving, and the inclusion of administrators' activity in the calculation of patient contact time. These findings highlighted the problem of relying on 'Anecdotal' reports of innovations, providing a case for generating research focusing on the processes carried out during implementation using qualitative methods, in addition to the reporting of quantitative outcomes.

Framework Analysis using the principles of Realist Evaluation on staff interviews and focus group data identified numerous contextual factors that constrained or enabled the mechanisms identified during the

implementation. At the user level, this included the attitude of staff, and staff perceptions of the need or possibility of change. At the organisational level, this included the levels of resources, and the perception of how organisational structures affected the improvements that could be made. At the implementation level, this included the effectiveness of communication and the quality of the implementation, and at the technological level, this included whether technology could be used to resolve problems or prevented improvement innovations being used.

For senior leaders and managers in healthcare, these findings highlight the importance of providing tangible support for staff during implementations, which reinforces previous research, and the need for managers to feel able to challenge implementation teams and commissioners if the potential benefits of innovations are not apparent. For implementation teams, the findings suggest that they would benefit with having previous experience of leading change programmes, and also having expertise in Information Technology. For commissioners, the results highlight the complexity of the commissioning process, and that there should be clear channels of communication from the commissioners down to front line staff so that when innovations are commissioned, they are made relevant to services, and also promote continuous quality improvement. Future research should focus on improving knowledge transfer to internally-led implementation teams, the skill-mix of implementation teams, and the commissioning of short-term frontline-driven quality improvement initiatives. This is needed in order to help healthcare organisations take better advantage of innovations such as the *Productive Community Services*, so that improvements are made at a substantive, rather than a superficial level.

8 Appendices

8.1.1 Appendix A: List of Abbreviations

ACPWP	Agreeing the Care Plan With the Patient – *PCS* Module 8
CQUIN	Commissioning for Quality and Innovation
DoH	Department of Health
KHWAD	Knowing How We Are Doing – *PCS* Module 2
MCAS	Managing Caseload and Staffing – *PCS* Module 4
NHSI	NHS Institute for Innovation and Improvement
NHSIQ	NHS Improving Quality
NNRU	National Nursing Research Unit
PCS	*Productive Community Services*
PCS PM	*PCS* Project Manager
PCS PSO	*PCS* Support Officer
PI	The Perfect Intervention – *PCS* Module 9
POW	Planning Our Workload – *PCS* Module 5
PSAG	Patient Status at a Glance – *PCS* Module 3
PW	*Productive Ward*
QIPP	Quality, Innovation, Productivity and Prevention
SACS	South Astford Community Services (pseudonym for the organisation under study)
SCP	Standard Care Procedures – *PCS* Module 7
SHA	Strategic Health Authority
SMT	Senior Management Team
WBWOKCP	Working Better With Our Key Care Partners – *PCS* Module 6
WOWE	Well Organised Working Environment – *PCS* Module 1
YHEC	York Health Economics Consortium

For list of service abbreviations see page 46

8.1.2 Appendix B: Organisational references

SACS (2012a) ‘About Us’, retrieved 13/07/2013 from the organisation under study’s website

SACS (2012b) ‘Our History’, retrieved 11/07/2013 from organisation under study’s website

SACS (2012c) *Productive Community Services*: Project Progress Report of Implementation Year 1 in the organisation under study, by the *PCS* PM and Researcher

SACS (2012d) List of staff in SACS reported by SACS Human Resources department, 20th March 2012

SACS (2011) *Productive Community Services*: Project Progress Report of Implementation Year 1 in the organisation under study, by the *PCS* PM and Researcher

8.1.3 Appendix C: CQUIN Targets

CQUIN Scheme 2010/2011 Summary

Coordinating Commissioner	
Associate Commissioners	N/A
Expected financial values of Scheme	Indicator Weighting of CQUIN total = 50% Notional Value Approx £254,000k (For final agreement)

Goals and Indicators

Goal No.	Description of Goal	Quality Domain(s)[6]	Indicator Number[7]	Indicator Name	National or Regional Indicator[8]	Indicator Weighting
1	To enable SACS to implement, progress & complete the '*Productive Community Services*' Programme in order to improve productivity and service quality across the range of services & pathways within Community Care.	Effectiveness / Experience / Innovation	(a)	*PCS* Implementation (All Modules)	No	35%
			(b)	*PCS* Implementation (2 Modules)	No	35%
		Effectiveness / Experience	(c)	Patient Facing Time	No	10%
		Effectiveness	(d)	Travel Time	No	10%
		Effectiveness	(e)	Stock Reduction	No	10%

Background & Rationale	With community services playing a crucial role in the shape of the new NHS, and care shifting away from acute services, the *Productive Community Services* (*PCS*) Programme from the NHS Institute for Innovation and Improvement is an opportunity to revitalise the workforce and increase NHS capacity to care for patients in local settings. *Productive Community Services* is a field focused, community team based programme which will: Increase patient-facing contact time; Reduce inefficient work practices; Improve the quality and safety of care; Re-vitalise the workforce. By increasing community staff understanding of how they are performing, giving them access to improvement tools and meaningful real-time information, it allows them to redesign working practices and will free up more time to spend with patients. The Transforming Community Services (TCS) programme aims to improve community services so that they can provide modern, personalised, and responsive care of a consistently high standard and *PCS* can be the enabler for these aims. The main purpose of *Productive Community Services* is for frontline staff to be engaged in an organisational-wide change programme which will vastly increase the organisation's capacity and capability for continuous improvement. Further information can be found at: http://www.institute.nhs.uk/quality_and_value/productive_community_services/about_the_programme.html

8.1.4 Appendix C: CQUIN Targets (cont.)

CQUIN Scheme 2011/2012 Summary

Coordinating Commissioner	
Associate Commissioners	N/A
Expected financial values of Scheme	£284,000

Goals and Indicators

Goal No.	Description of Goal	Quality Domain(s)[6]	Indicator Number[7]	Indicator Name	National or Regional Indicator[8]	Indicator Weighting
1	To enable SACS to implement, progress & complete the '*Productive Community Services*' Programme in order to improve productivity and service quality across the range of services & pathways within Community Care.	Effectiveness / Safety / Experience / Innovation	(a)	*PCS* Implementation (Modules 3 to 9)	No	35%
		Effectiveness / Safety / Experience / Innovation	(b)	*PCS* Implementation (Modules 3 to 6)	No	35%
		Effectiveness / Innovation	(c)	Standardised Referrals	No	7.5%
		Effectiveness / Safety	(d)	PSAG screen	No	7.5%
		Effectiveness	(e)	Travel Reduction	No	7.5%
		Effectiveness / Experience	(f)	DNA Reduction		

Background & Rationale	With community services playing a crucial role in the shape of the new NHS, and care shifting away from acute services, the *Productive Community Services* (*PCS*) Programme from the NHS Institute for Innovation and Improvement is an opportunity to revitalise the workforce and increase NHS capacity to care for patients in local settings. *Productive Community Services* is a field focused, community team based programme which will: Increase patient-facing contact time; Reduce inefficient work practices; Improve the quality and safety of care; Re-vitalise the workforce. By increasing community staff understanding of how they are performing, giving them access to improvement tools and meaningful real-time information, it allows them to redesign working practices and will free up more time to spend with patients. The *Productive Community Services* (*PCS*) program aims to improve community services so that they can provide modern, personalised, and responsive care of a consistently high standard and *PCS* can be the enabler for these aims. The main purpose of *Productive Community Services* is for frontline staff to be engaged in an organisational-wide change programme which will vastly increase the organisation's capacity and capability for continuous improvement. Further information can be found at: http://www.institute.nhs.uk/quality_and_value/productive_community_services/about_the_programme.html

8.1.5 Appendix C: CQUIN Targets (cont.)

2010/2011 and 2011/2012 Indicator Descriptions and Final Indicator Values (Payment Thresholds)

Description of Indicator	Final Indicator Value (Payment Threshold)
1(a) *PCS* Implementation (All Modules) 3 key 'services' will be prioritised and will complete *all* 9 modules of the programme: District Nursing/Community Matrons Admission Avoidance Children's SALT *Note: The above should be considered in the context of planned progression to the Integrated Care Team model.*	Evidence demonstrating completion of all *PCS* modules with a benefits realisation 'self assessment' at the end of each module to be undertaken in conjunction with University.
1(b) *PCS* Implementation (2 Modules) All 'services' will complete the initial 2 modules of the programme which are: 'Well organised working environment' 'Knowing how we are doing'	Evidence demonstrating completion of all *PCS* modules with a benefits realisation 'self assessment' at the end of each module to be undertaken in conjunction with University.
1(c) Patient Facing Time A key output resulting from completion of indicators 1(a) & 1(b) is a significant increase in patient facing time.	10% (minimum) increase in Patient Facing Time for Services covered by Indicator 1(a)
1(d) Travel Time A key output resulting from completion of indicators 1(a) & 1(b) is a significant reduction in travel time.	10% (minimum) less Travel Time for Services covered by Indicator 1(a)
1(e) Stock Reduction A key output resulting from completion of indicators 1(a) & 1(b) is a significant reduction in the levels of stock.	30% (minimum) reduction in Stock for 'services' covered by Indicator 1(a)

Table 9: CQUIN Indicators and Final Indicator Values for Year 1 (2010/2011)

Description of Indicator	Final Indicator Value (Payment Threshold)
1(a) *PCS* Implementation (Modules 3 to 9) 3 'services' will be prioritised and will complete all 9 modules of the programme (Modules 1 and 2 completed in 2010/11): Adult Speech & Language Assessment & Rehabilitation Unit (ARU) Additional service to be confirmed by 30.04.11	Evidence demonstrating completion of all *PCS* modules with a benefits realisation 'self assessment' at the end of each module to be undertaken in conjunction with University.
1(b) *PCS* Implementation (Modules 3 to 6) All 'services' will complete modules 3 to 6 of the programme which are: 'Patient Status at a Glance' 'Managing Caseload and Staffing' 'Planning Our Workload' 'Working better with Our Key care Partners'	Evidence demonstrating completion of *PCS* modules 3 to 6 with a benefits realisation 'self assessment' at the end of each module to be undertaken in conjunction with University.
1(c) Standardised Referrals A key output resulting from completion of indicators 1(a) & 1(b) is an improved referral system.	Implementation of standardised referral forms across SACS
1(d) Patient Status At a Glance (PSAG) A key output resulting from completion of indicators 1(a) & 1(b) is an improved system for gathering key patient information.	Implementation of PSAG to all services covered in indicators 1(a) and 1(b) for services using SystmOne.
1(e) Travel Reduction A key output resulting from completion of indicators 1(a) & 1(b) is a significant reduction in travel time. To include those services that have more visits than appointments in a clinic setting.	10% (minimum) less Travel Time for Services covered by Indicator 1(a) and 1 (b) that have more visits than appointments in a clinic setting.
1(f) DNA Reduction A key output resulting from completion of indicators 1(a) & 1(b) is a significant reduction DNA clinic appointments.	5% minimum reduction in time lost, target of 10% reduction

Table 10: CQUIN Indicators and Final Indicator Values for Year 2 (2011/2012)

8.1.6 Appendix D: Supplementary info regarding ethics

The interests of the participants were protected by ensuring that any of their identifiable data was stored securely using the organisation's secure NHS server or encrypted SafeHouse software, and elsewhere anonymised, and there was no direct contact with patients. The *PCS* Team members were aware that the Researcher's purpose was to research the implementation process, and where relevant, other staff that came into contact with the Researcher were made aware that the Researcher was observing and researching the process of the implementation as part of her role. For example, when the Researcher trained staff to use the *PCS* Measures spreadsheet for Module 2, staff members were asked if they were happy for the Researcher to record notes to contribute towards the research into the *PCS* programme. Any notes taken in the research journal (see page 72) were anonymised, and whenever instruments were used to record data (for example, a dictaphone for the interviews), this was with the full knowledge and consent of the participants.

8.1.7 Appendix E: Data collected but not formally analysed

The following data was collected during the implementation, however it was beyond the constraints of the thesis to be formally analysed:

- Video camera footage of meetings between *PCS* Co-ordinators and service staff
- Individual interviews with *PCS* Team Members
- Diary entries from *PCS* Team Members
- Staff Survey regarding *PCS*
- Specific data collected regarding Modules 2,5,6-9
- Module Assessments:
    - Learning outcome questions (although see Appendix I for summary)
    - Expectations not met
    - Any earlier responses that were later changed by respondents

8.1.8 Appendix F: Useful Weblinks

- Original NHS Institute for Innovation and Improvement website with information regarding the *Productive Community Services* programme http://www.institute.nhs.uk/quality_and_value/productivity_series/productive_community_services.html.
- Website link explaining move to NHS Improving Quality and how to get more information regarding the *Productive Series*: http://www.institute.nhs.uk/quality_and_value/productivity_series/the_productive_series.html
- *Productive Series* e-learning modules: Productive http://www.theproductives.com/

8.1.9 Appendix G: Year 1 End of Module Assessment

Team Leader Name_____ Team(s): _____ Date: _____

End of Module Assessment
Module 1 - The Well Organised Working Environment

Before completing this assessment, please confirm that you feel that this module has been fully rolled out to your Service by ticking this box ☐
If you do not feel that this module has been fully rolled out, please contact [the PCS Project Manager]

Please circle whether you Strongly Agree, Agree, Disagree or Strongly Disagree with the following statements:

All items in the work area have a clear purpose and reason for being there.

Strongly Agree Agree Disagree Strongly Disagree

There are specific locations for everything.

Strongly Agree Agree Disagree Strongly Disagree

The locations for these items are clearly marked.

Strongly Agree Agree Disagree Strongly Disagree

It is easy to see if something is missing, in the wrong place, or needs to be re-stocked.

Strongly Agree Agree Disagree Strongly Disagree

All the equipment is regularly maintained and kept ready-to-go.

Strongly Agree Agree Disagree Strongly Disagree

There are standard operating procedures on the use of the area, and all staff are aware of how things should be done.

Strongly Agree Agree Disagree Strongly Disagree

Regular and random audits are conducted against the standard operating procedures to make sure the changes are maintained.

Strongly Agree Agree Disagree Strongly Disagree

A new member of staff can easily find things and understand how things are done.

Strongly Agree Agree Disagree Strongly Disagree

Quantities of stock are based on usage.

Strongly Agree Agree Disagree Strongly Disagree

The replenishment of stock matches how much is used.

Strongly Agree Agree Disagree Strongly Disagree

8.1.10 Appendix G: Year 1 End of Module Assessment (cont.)

End of Module Assessment (cont.)
Module 1 - The Well Organised Working Environment

Open Questions

Why do we 5S?

_____
_____
_____

How can 5S make better use of space?

_____
_____
_____

Define visual management and how it is used in the Well Organised Working Environment.

_____
_____
_____

Define standard work and how it is used in the Well Organised Working Environment module to increase quantity?

_____
_____
_____

Where do audits fit into the Well Organised Working Environment module and how are they used?

_____._____
_____
_____

Since working through the Well Organised Working Environment module, circle the nearest description (e.g. 'Deteriorated', 'Stayed the Same', 'Improved Noticeably', 'Improved Greatly') that you feel matches the various aspects of your work:

Environment	Deteriorated	Stayed the Same	Improved Noticeably	Improved Greatly
Working Procedures	Deteriorated	Stayed the Same	Improved Noticeably	Improved Greatly
Working Efficiency	Deteriorated	Stayed the Same	Improved Noticeably	Improved Greatly
Standard of Service	Deteriorated	Stayed the Same	Improved Noticeably	Improved Greatly
Team Morale	Deteriorated	Stayed the Same	Improved Noticeably	Improved Greatly
Personal Morale	Deteriorated	Stayed the Same	Improved Noticeably	Improved Greatly

Would you like to make any further comments or suggestions?

_____
_____
_____
_____
_____

8.1.11 Appendix H: PCS 10-Point Checklists

	Module 1: Well Organised Working Environment (WOWE)
1	All the items in the area have a clear purpose and reason for being there
2	There are specific locations for everything
3	The locations for those items are clearly marked
4	It's easy to see if something is missing, in the wrong place, or needs to be restocked
5	All the equipment is regularly maintained and kept ready-to-go
6	There are standard operating procedures on the use of the area and all staff are aware of how things should be done
7	Regular and random audits are conducted against the standard operating procedures to make sure the changes are maintained
8	A new member of staff can easily find things and understand how things are done
9	Quantities of stock are based on usage
10	The replenishment of stock matches how much is used

Table 11: WOWE 10-Point Checklist (NHSI, 2009f, p. 13)

	Module 2: Knowing How We Are Doing (KHWAD)
1	There is a measures board located in a prominent position in the office
2	The board displays the agreed measures, or as close to these as possible
3	There are agreed measures definitions
4	There is a simple procedure to update each chart with a set frequency and person responsible
5	Staff can tell how a team is doing based on the presentation of data
6	A weekly review meeting is held that follows a set agenda within set time frames
7	It is easy to prioritise discussion items at the meeting
8	Actions are quickly identified, recorded, and a person given responsibility for completing the action by a specified date
9	The 'team problem solving area' is being used to understand the underlying measures in more detail
10	Staff and stakeholders are showing an active interest in the board and its impact on performance progress

Table 12: KHWAD 10-Point Checklist (NHSI, 2009a, p. 9)

	Module 3: Patient Status at a Glance (PSAG)
1	The patient status board is in a location central to staff
2	The patient board is used in handovers / patient allocation meetings
3	Patient confidentiality issues have been considered
4	Staff understand where information on the board is coming from
5	The frequency of updating the boards, and who is responsible for updating it, is clear
6	The board is always up to date
7	Staff can quickly understand patient status by reviewing a patient status board
8	The reliability (how well they are carried out) of handover / patient allocation meetings is checked every meeting
9	Staff don't spend time searching for information
10	Staff are not interrupted by other staff looking for information

Table 13: PSAG 10-Point Checklist (NHSI, 2009d, p. 13)

	Module 4: Managing Caseload and Staffing (MCAS)
1	The team understand what proportion of team hours are left after training, holiday and sickness are deducted
2	The team record how much holiday, sickness and training is used every week and month
3	The team's holiday, sickness and training hours are displayed openly in the office for the whole team to see
4	The team has an agreed strategy for how the team handle sickness, training and holiday over the year
5	The team review holiday, sickness and training each week
6	The team plan levels of holiday, sickness and training each week
7	The team reduce how much training and holiday can be taken at busy times
8	The team have an agreed set of actions when workload is beyond what the team has planned for
9	The team have an agreed set of actions when workload is below what the team has planned for
10	The team actively plan training with their training department in line with their requirements

Table 14: MCAS 10-Point Checklist (NHSI, 2010c, p. 9)

8.1.12 Appendix H: PCS 10-Point Checklists (cont.)

	Module 5: Planning Our Workload (POW)
1	Weeks and days are planned as a team, not a s individuals
2	There are clearly defined standards on the amount of time that needs to be spent with patients each week
3	There is a visual management process of displaying the team's plan for the week
4	Patients are allocated to staff to ensure staff do not cross paths when travelling
5	The amount of time the team spends with patients is quantified
6	There is very little variation between staff of the same grade / speciality on the amount of time they spend with patients
7	The team all plan in the same way
8	Time saved in other modules is planned into extra / longer visits with patients
9	Work is distributed systematically, between team members who are under loaded and team members who are overloaded
10	Driving time is minimized by assigning staff to geographical zones

Table 15: POW 10-Point Checklist (NHSI, 2010d, p. 11)

	Module 6: Working Better With Our Key Care Partners (WBWOKCP)
1	Staff always know why they are being asked to provide a care intervention
2	Staff always know what they are being asked to do
3	Staff always know when they are being asked to provide a care intervention
4	Staff always have the right equipment to treat the patient
5	Staff have all the right information to access the patient record and provide an effective care intervention
6	Staff meet regularly with key partners to ensure effective care is provided at each stage in the patient journey
7	Staff know how to signpost inappropriate new referrals in the most effective and efficient way
8	There are referral standard operating procedures implemented
9	All staff members know exactly what they need to do when handling new referrals and feel confident and competent
10	Staff know how to work better with their key partners as proven by regular audits conducted against their standard operating procedures

Table 16: WBWOKCP 10-Point Checklist (NHSI, 2010f, p. 17)

	Module 7: Standard Care Procedures (SCP)
1	When faced with having to carry out the same intervention, we will carry out the intervention in the same way and to the same standard
2	For the conditions we treat we know where to find the most up to date best practice guidelines
3	For the conditions we treat we base our practice on best practice guidelines, and can provide evidence of this
4	As a team we regularly discuss the available best practice information and agree how we should incorporate it into our practice
5	We regularly audit our practice against best practice guidelines, and take action to address those areas of practice that do not meet the required standard
6	We use other sources of information, such as complaints, incidents, internal and external reports to help us prioritise the areas of practice we want to review and improve
7	We use risk assessments to prioritise which interventions to work on as a team to make them safer and more reliable
8	We use root cause problem solving to make our priority interventions safer
9	If as a team we deviate from the available best practice we inform our governance department and provide robust evidence to explain our rationale
10	If our organisation does not currently have relevant best practice information on a certain area of intervention we work with our governance department to source or create it

Table 17: SCP 10-Point Checklist (NHSI, 2010e, p. 11)

	Module 8: Agreeing the Care Plan with the Patient (ACPWP)
1	Staff always involve patients in agreeing their plan of care
2	All goals and actions agreed are written using the SMART format
3	Staff always use best practice / clinical guidelines to advise patients when agreeing goals and actions to achieve
4	Staff always know what to do if the patient is not achieving their goals and actions as expected - the review process
5	Documentation used to plan care is set out and explained in a way that can be understood by the patient and used by them
6	Staff always complete the documentation used to plan care with the patient during their visit
7	Patients always know what is expected of them and are able to articulate this
8	Staff always know what is expected of them and are able to articulate this
9	Patients, where possible, have an opportunity to report and document their perception on their progress
10	Patients are actively encouraged to participate in shaping the way you work in the future to improve the way you involve patients to plan their care

Table 18: ACPWP 10-Point Checklist (NHSI, 2010b, p. 11)

8.1.13 Appendix I: Module Assessment Learning Outcome Scores and Discussion

The second section of the End of Module 1 and 2 Assessments asked open-ended knowledge questions about the module work, which were based on questions provided by the programme authors to test the learning outcomes (NHS Institute, 2009f, p. 99). The authors offer 3-4 possible answers for each question, and a point was awarded for each correct answer given, allowing for variation in wording if the principle was felt to be understood. The table below displays the Module 1 Assessment mean scores for each question using two scenarios; firstly when requiring all the answers given in the module material, and secondly when only requiring one correct answer for each question:

Module 1 - Well Organised Working Environment Learning Outcome Questions	Question Response rate (%)	Respondents indicating answer not known (%)	No. of possible answers	Scored expecting all answers		Scored expecting one answer	
				Total score (%)	Mean Score (SD)	Total score (%)	Mean Score (SD)
11. Why do we 5S?	82	5	4	30	1.2 (1.1)	73	0.7 (0.4)
12. How can 5S make better use of space?	84	4	3	26	0.8 (0.7)	67	0.7 (0.5)
13. Define visual management and how it is used in the Well Organised Working Environment.	86	4	3	28	0.8 (0.6)	75	0.8 (0.4)
14. Define standard work and how it is used in the Well Organised Working Environment module to increase quantity?	-	-	-	-	-	-	-
15. Where do audits fit into the Well Organised Working Environment module and how are they used?	88	3	4	20	0.8 (0.6)	75	0.8 (0.4)

Table 19: Year 1, Scores received for knowledge questions in End of Module 1 Assessment
NB. n=73

Where scores were based on answering all the answers given in the material correctly, mean scores appeared low, ranging from 20-30%. In addition, the mean scores do not include responses left blank, which may have also indicated a lack of knowledge (the Question Response Rate in the table above infers the percentage of respondents that left answers blank). Question 14 ("Define standard work and how it is used in the Well Organised Working Environment module to increase quality") was not scored as the question contained a typing error where the word 'quality' was instead of 'quantity', which was likely to have caused confusion. Respondents were not shown how many answers were expected for each question which may have also contributed to the low scoring, and which is why the second scoring scenario has been reported here. These scores were not reported in the internal progress report or reported back to services, however where time permitted, members of the PCS Team contacted respondents to revisit the module material if their responses indicated a lack of knowledge.

The table below displays the mean percentage scores for the Module 2 knowledge questions:

8.1.14 Appendix I: Module Assessment Learning Outcome Scores and Discussion (cont.)

Module 2 - Knowing How We Are Doing Learning Outcome Questions	Response rate (%)	Respondents indicating answer not known (%)	No. of possible answers	Scored expecting all answers		Scored expecting one answer	
				Total score (%)	Mean Score (SD)	Total score (%)	Mean Score (SD)
11. Why is it important to use facts and data to demonstrate improvements?	95	2	3	34	1.0 (0.7)	77	0.8 (0.3)
12. What is a process measure?	71	11	1	39	0.4 (0.4)	-	-
13. What is the benefit of displaying measures on a board for everyone to see?	92	2	2	43	0.9 (0.5)	78	0.8 (0.4)
14. What is the benefit of weekly team meetings?	94	2	3	32	1.0 (0.9)	54	0.7 (0.5)
15. Describe a SMART goal	76	14	1	47	0.6 (0.4)	-	-

Table 20: Year 1, Scores received for knowledge questions in End of Module 2 Assessment
NB. n=63. Hyphens denote questions which required only one answer

Similarly to the End of Module 1 Assessment, where all answers were required, scores were low (ranging from 32-47%), however where scores were based on at least one correct answer, scores were higher (ranging from 54-78%). The questions that required some knowledge of the material (question 12 regarding a 'process measure' and question 15 regarding a 'SMART goal'), as opposed to opinion-based questions, received the lowest response rates and the highest number of responses that indicated that the answer was not known. Given that additionally, some staff may have been familiar with the SMART acronym from sources other than the material (which would have increased the score for this question), this might suggest that staff members' knowledge of the material's content was lacking.

In regards to the learning outcome questions, the scored results might have been less ambiguous if respondents were made aware of how many responses were expected. However, the answers provided in the material were not originally intended to be numerically scored but to give a general idea as to whether staff understood the concepts described in the module. For example, the last question asks,

"Where do audits fit into the Well Organised Working Environment module and how are they used?"

(NHSI, 2009f, p. 99)

One of the answers provided for this question in the material is,

"Never stop using audits"

(NHSI, 2009f, p. 99)

Although the sentiment of this answer can be understood, it is not clear that the ideal frequency of audits is required as part of the answer to this question. As this answer and some of the others appear somewhat subjective, this suggests that even if the number of answers expected was communicated, this may have made little difference to the scoring. This problem has partly been caused by the attempt to transfer the module material into the evaluation

design, and further issues with the design of the End of Module Assessment are explored in the main Discussion section.

8.1.15 Appendix J: Year 2 Module Assessment

Checklist		Responses		
1	The 'patient status at a glance' information is in a location accessible to staff			
2	The 'patient status at a glance' information is used in handovers / patient allocation meetings or when required			
3	Patient confidentiality issues have been considered			
4	Staff understand where 'patient status at a glance' information is coming from			
5	'Patient status at a glance' information is updated in a timely fashion.			
6	'Patient status at a glance' information is always up to date			
7	Staff can quickly understand patient status by reviewing 'patient status at a glance' information			
8	Staff now spend less time searching for information			
9	Staff now have less interruptions from other staff looking for information			
10	The PSAG information has a defined standard documented			
Data Collected			Deadline Date Set (DD/MM/YYYY)	Date Completed (DD/MM/YYYY)
11	A 'Beginning of Module Assessment' has been (or is being) carried out			
12	A 'PSAG Requirements' form has been completed and returned to the *PCS* team			
13	13 tests of the time it takes to get PSAG information BEFORE changes have taken place have been carried out (enter number of tests completed out of 13) (see 'PSAG timing sheet')			
14	An 'Interruptions Audit' has been carried out BEFORE changes have taken place (the next 'Interruptions audit' is carried out at the end of Module 5)			
15	A 'workload analysis sheet' has been completed by 1 member of each available band of staff BEFORE changes have been made (the next 'workload analysis' is carried out at the end of Module 5)			
16	Your service's WTE information has been completed for the waterfall diagram (see 'XXXX' form)			
17	13 tests of the time it takes to get PSAG information AFTER changes have taken place have been carried out (enter number of tests completed out of 13) (see 'PSAG timing sheet')			
18	A 'Handover Meeting Reliability Audit' has been carried out (if applicable)			
19	An 'End of Module Assessment' has been (or is being) carried out (this will be towards the end of the module)			

Figure 31: Top of Year 2 Beginning and End of Module Assessment in Microsoft Excel (PSAG)

8.1.16 Appendix J: Year 2 Module Assessment (cont.)

Patient Experience Survey (this is a mandatory measure if team does not claim travel as part of their normal working day)				
20	At least 30 'Patient Experience Surveys' have been collected (enter number of surveys received out of 30 or select 'Not Applicable'). This will be around May & September 2011, & January 2012 - agree with team whether this will be carried out during this module).			
PCS Team Expectations				
21	You and your team will familiarise yourselves with the module material			
22	You and your team will carry out the exercises associated with the data collection stated in 11-20 (if applicable)			
23	You and your team will provide the data stated in 11-20 (if applicable) within the agreed timeframe			
The Service's Expectations				
24	What are your expectations of working through this module?			
	The Service's comments	*PCS* team response		
a)	That we will get a front sheet for S1 which gives us all the information we need at a glance.	This has been agreed.		
b)	Interruptions will lessen.	This has been agreed. But the extent of the interruptions lessening relies on the teams response and input.		
c)				
d)				
e)				
Statement				
As *PCS* Lead for this module, I agree to participate fully in the programme and collect the data within the agreed timeframes.				
Name(s):			Date:	

Figure 32: Bottom of Year 2 Beginning of Module Assessment in Microsoft Excel (PSAG)

The Service's Expectations Stated at the Beginning of the Module			
24	What were your expectations of working through this module?		
	The Service's comments		*PCS* team response
a)	That we will get a front sheet for S1 which gives us all the information we need at a glance.		This has been agreed.
b)	Interruptions will lessen.		This has been agreed. But the extent of the interruptions lessening relies on the teams response and input.
c)			
d)			
e)			
25	To what extent do you agree that your expectations have been met?	Agree	(interruptions is an ongoing)
26	In what ways were your expectations met, or not met?		
	Front sheet on S1 was met, interruptions couldn't be reduced due to the nature of the environment. Team will keep assessing this situation.		
Benefits			
	Since working through the 'Patient Status at a Glance' module, indicate the nearest description (e.g. 'Deteriorated', 'Has been Maintained', 'Improved Noticeably', 'Improved Greatly') that you feel matches the various aspects of your work:		
27	Working Procedures	Improved Noticeably	27 & 28. Has improved as you can quantifiably demonstrate you can find that information more quickly, but in practice, they wouldn't access this information that much anyway
28	Working Efficiency	Improved Noticeably	
29	Standard of Service	Improved Noticeably	
30	Morale	Has been Maintained	
31	Can you give any examples where time has been saved or where the benefits of this module have been felt?		
	PSAG timings demonstrated time savings, and Interruptions Audit demonstrated that the environment/bases reduce productivity.		
32	Would you like to make any further comments or suggestions?		
	The fact that people have been able to make suggestions and it's come to fruition has been good - people have seen that their thoughts and ideas have been listened to & are appreciated.		

Figure 33: Bottom of Year 2 End of Module Assessment in Microsoft Excel (PSAG)

8.1.17 Appendix K: Calculating Participant Observation Time

- The minimum Participant Observation time has been reported. This is because the time spent in specific meetings with organisational members was calculated using calendar entries in Microsoft Outlook and based on pessimistic assumptions, for example:
- The duration of time of calendar entries for meetings with just the Researcher and organisational members have been halved to account for some of those meetings taking less time than the hour booked (even though some of those meetings took longer than the hour booked)
- Any telephone calls with organisational members from the office or from home have not been included
- Where calendar entries have not been substantiated by notes or other Team members' calendar entries these have not been included
- Some time was categorised as 'Other' although this has not been included in the calculations (for example, the Researcher attended training sessions at the NHSI with the *PCS* Team and took observational notes but this has not been included in the calculations)

8.1.18 Appendix L: Interview Topic Guide for PCS Team Group Interview

PCS

1. What do you think are the most important or useful points about *PCS*, i.e. if you wanted teams to take away just 2 or 3 learning points or lessons from *PCS*, what would they be?

2. Now that we're in the last month of rolling out the *PCS* programme, looking back over the last 18 months, how have you found the *PCS* experience generally?
    - What have you learnt from the process?
    - What have you found to be the most difficult in implementing *PCS*?
    - What have been the things that have got you motivated/encouraged?
    - Is there anything you would do differently if you had to do it again?

3. Do you think the *PCS* ethos has been 'embedded' into the practice of services?
    - What do you see *PCS* being embedded into services even looking like?
    - Do you think this is even necessary for services?

4. How useful have the materials been?
    - What do you think about them?
    - How much have you used or referred to the *PCS* material?
    - The assessments used the checklists from the modules. How helpful or unhelpful were these?
    - Were the principles of the modules' always clear?
    - **Did you agree with the modules' principles? Did you always think they were of benefit to the team? If not, how did you cope with on one hand needing to do the work, and the other hand not really knowing if it was going to be of benefit?**
    - What do you think the Institute could do to improve the material?

5. How do you feel about the training you received from the Institute or generally throughout the process?

6. What do you think were the most difficult modules for the teams or yourselves?
    - Why?
    - Easiest?

7. How did you find adapting the *PCS* material to 'fit' the various different services?

8. How important a role do you think the team managers have played in the *PCS* implementation?

9. Do you think that the *PCS* programme has saved time?
    - Do you think the staff felt that the *PCS* programme saved time?
    - How much does this matter?

10. I think the way that *PCS* has been implemented has been closely intertwined with SystmOne.
    - Do you agree?
    - How has this impacted on the implementation?
    - Do you think *PCS* could have been implemented completely separately from SystmOne? For example, if [the *PCS* PM] didn't have his S1 expertise, how do you think the *PCS* implementation would have looked?

11. How did you gauge team engagement?
    - What indications did staff give you that they were or were not engaged in the project?
    - What tactics did you use to increase engagement?
    - Did these work/what were the most effective?
12. Now that we've come to the end of the programme, has the process or the end results/outcomes been as you expected it to be when you first started?

13. Do you feel that *PCS* has been a success?

8.1.19 Appendix L: Interview Topic Guide for PCS Team Group Interview (cont.)

1. To what extent has time been a factor in the *PCS* implementation?
    - Could anything have resolved this or made it easier?
    - The commissioners time scales impacted the time available to work with the teams. Do you think it could have worked any other way? Do you think NOT having timeframes in place would have worked?

2. As a team we used the *PCS* planner, but how easy or hard have you found it to keep track of multiple services?
    - Is there any way that this could have been improved?

3. How do you think the SACS staff feel about *PCS* now that it's pretty much finished?

4. Do you think the outcomes would be different if teams had to do the *PCS* work themselves without a central *PCS* team facilitating?

5. It has been suggested in research into the *Productive Series* that, for example, implementing *PCS* in community services would be more difficult than Productive Ward in a hospital because of the distance between staff/teams.
    - Do you think the fact that this is a community services organisation with lots of different bases has impacted on the programme?
    - Is there any way that these issues can be resolved?

6. How do you feel organisational structures and systems have impacted on the implementation?

Change

7. As *PCS* is labelled a 'change' initiative, do you think it has changed?
    - If not, why?
    -
8. How has the implementation of *PCS* been affected by the change occurring in other aspects of SACS?
    - SystmOne
    - Social Enterprise
    - Structural changes
    - Personnel changes

9. While working with the teams what do you feel is the general feeling towards change?

10. Could you tell whether staff were open or not open to change?
    - How?
    - Was it obvious?

11. How do you feel the SACS staff have generally coped with the changes that have taken place over the last 18 months?

Compliance

12. A lot of the project involves you getting the staff to do what you want. What methods did you use to do this?
13. What methods were the most effective?
14. What methods didn't work as well?
15. Do you think your individual background experiences affected the extent to which staff complied with what you asked them to do?

8.1.20 Appendix M: Interview Schedule for non-Senior Managers

I've been carrying out research on the PCS programme over the last 18 months and most of my perspective so far has been from the PCS implementation team, so now I'd like to explore how PCS has been experienced by the actual front line teams and managers who have carried out the PCS work, and also talk about change in general as there have been various other changes that have taken place in SACS over the last 18 months. Before I move on, are you happy for me to record the interview?

PCS

I'm just going to quickly run through a list of some of the exercises that were carried out as part of PCS – please can you just indicate the ones you were involved with:

- A '5S Sort' of your stock or work space (e.g. pricing, sorting, clearing, labelling)
- Maintaining the *PCS* Measures Spreadsheet
- PSAG Screen timed exercise (finding information in 13 patient records without the PSAG screen)
- Interruptions Audit
- Referrals Audit (recording number of incomplete referrals received and time it took to find missing info)
- Referrals Timing exercise (timed exercise processing a referral 3 times without using S1, and then 3 times using S1
- Discussing/drafting Golden rules/ workload allocation processes or workload planning processes
- Workload analysis (recording F2F, NF2F, Travel, admin or 'other' over 2 days)
- Travel route mapping (recording the postcodes of visits over one day)
- Newbie Southie Exercise
- 10-patient condition timeline
- Any other?

1. So before we go into your experience of the programme, how would you describe the main ethos or purpose of the *Productive Community Services* (PCS) programme to someone who has not come across it before? (If you are unsure of what the PCS programme is you can say that too!)

2. Can you think of any examples of the changes that have been made as a result of the PCS programme in your service?

3. In what ways do you think the PCS programme was useful to your service?

4. As a team you would have been allocated a dedicated PCS Co-ordinator. Was this useful? Would it have been possible to do the PCS work without one?

5. What did you think about the PCS material? (e.g. the module books, or pdfs on the intranet)

6. Did you find anything difficult or frustrating about the PCS programme?

7. Do you feel that management (e.g. your line manager or the management above them) supported PCS?

8. How do you think your team generally felt about PCS?

9. Do you think all the members of your team knew about PCS? If not how would you suggest this is communicated/disseminated in future?

10. If there were any changes, do you think these will be sustained now that the PCS programme is over?

11. Is there anything you would suggest would be able to improve PCS implementation for other people in future?

12. Do you feel PCS has been a success?

8.1.21 Appendix N: Interview Schedule for Senior Managers

PCS

The first part of the interview will briefly talk about PCS and then we'll move onto talking about other changes in SACS, but firstly I just wondered if you could tell me a bit about your professional background?

1. Can you just talk a bit about the process of deciding to implement *Productive Community Services* in SACS?
2. What prompted its implementation?
3. Was there any objection to its being run in SACS?

4. How would you personally describe *Productive Community Services* to someone who is unaware of it, in terms of what it is and its purpose?

5. What would you say are the main ideas behind it, in terms of underlying values or philosophy?

6. What is it about The *Productive Community Services* that appeals to healthcare organisations?
7. What types of factors and issues might be involved?

8. What is it about PCS that appeals to frontline staff?

9. Do you think there are aspects of PCS that are off-putting or viewed in a negative way, either by healthcare organisations or frontline staff?
10. Have you had any feedback from staff who have implemented it?

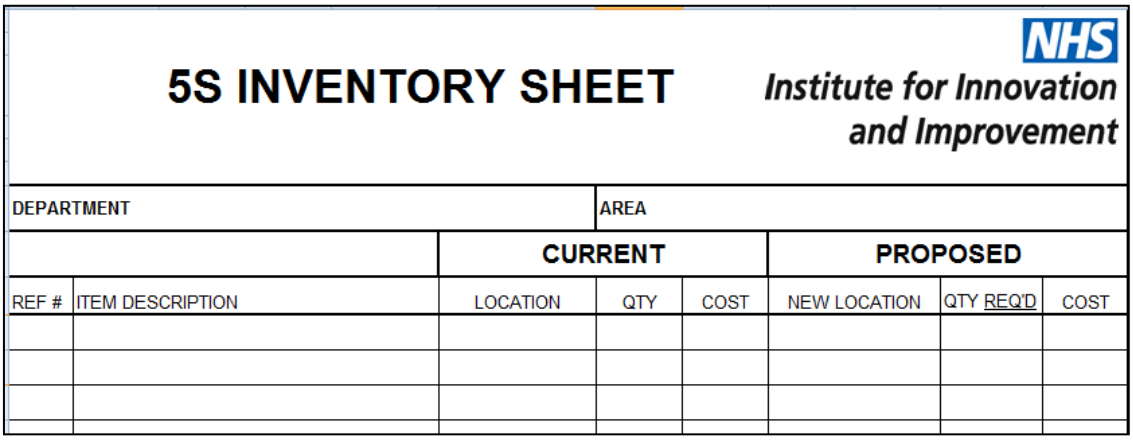
11. Is there anything else you would like to say about PCS?

8.1.22 Appendix O: Transcription Conventions

The transcription method was adapted from the simplified Jeffersonian method provided by Potter and Wetherell (1987), and Parker (1992)

(.)	Pause
.	Short pause
,	Very short pause
Underlined	Words uttered with added emphasis
(inaudible)	Round brackets indicate that material in the brackets is either inaudible or there is doubt about its accuracy
[Area X]	Material in square brackets is clarificatory information, anonymised information, or non-verbal action (e.g. laughter)
-	Word sound interrupted (e.g. speaker stops mid-way through word)
/hmm/	Noises/words of assent (if response isn't on a separate line) (from Parker, 1992, pp 124)
?	Pitch rises, similar to a question
...	Text or words of assent have been removed for brevity

8.1.23 Appendix P: Comparison of PCS and implementation '5S' Inventory Sheets

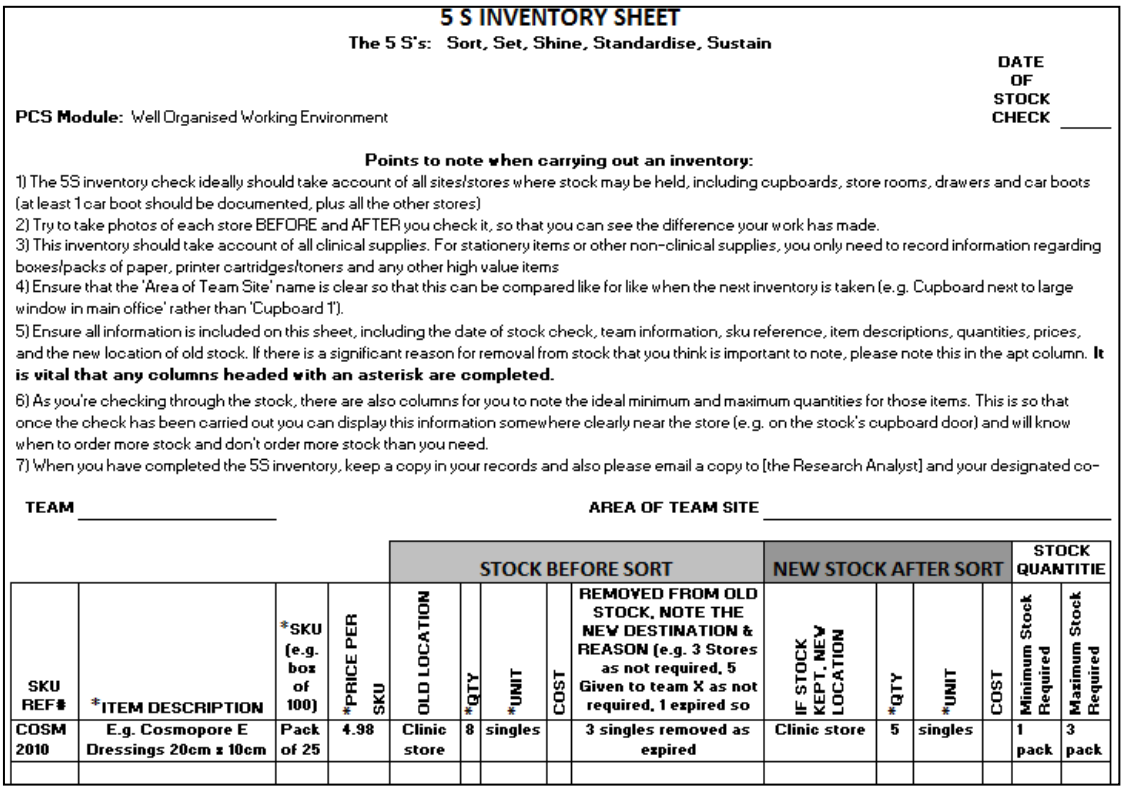


5S INVENTORY SHEET

NHS Institute for Innovation and Improvement

DEPARTMENT			AREA				
		CURRENT			PROPOSED		
REF #	ITEM DESCRIPTION	LOCATION	QTY	COST	NEW LOCATION	QTY REQ'D	COST

Figure 34: 5S Inventory sheet provided in the PCS Material (NHSI, 2009g)



5 S INVENTORY SHEET

The 5 S's: Sort, Set, Shine, Standardise, Sustain

DATE OF STOCK CHECK _____

PCS Module: Well Organised Working Environment

Points to note when carrying out an inventory:

1) The 5S inventory check ideally should take account of all sites/stores where stock may be held, including cupboards, store rooms, drawers and car boots (at least 1 car boot should be documented, plus all the other stores)
2) Try to take photos of each store BEFORE and AFTER you check it, so that you can see the difference your work has made.
3) This inventory should take account of all clinical supplies. For stationery items or other non-clinical supplies, you only need to record information regarding boxes/packs of paper, printer cartridges/toners and any other high value items
4) Ensure that the 'Area of Team Site' name is clear so that this can be compared like for like when the next inventory is taken (e.g. Cupboard next to large window in main office' rather than 'Cupboard 1').
5) Ensure all information is included on this sheet, including the date of stock check, team information, sku reference, item descriptions, quantities, prices, and the new location of old stock. If there is a significant reason for removal from stock that you think is important to note, please note this in the apt column. **It is vital that any columns headed with an asterisk are completed.**
6) As you're checking through the stock, there are also columns for you to note the ideal minimum and maximum quantities for those items. This is so that once the check has been carried out you can display this information somewhere clearly near the store (e.g. on the stock's cupboard door) and will know when to order more stock and don't order more stock than you need.
7) When you have completed the 5S inventory, keep a copy in your records and also please email a copy to [the Research Analyst] and your designated co-

TEAM _____ **AREA OF TEAM SITE** _____

				STOCK BEFORE SORT					NEW STOCK AFTER SORT				STOCK QUANTITIE	
SKU REF#	*ITEM DESCRIPTION	*SKU (e.g. box of 100)	*PRICE PER SKU	OLD LOCATION	*QTY	*UNIT	COST	REMOVED FROM OLD STOCK, NOTE THE NEW DESTINATION & REASON (e.g. 3 Stores as not required, 5 Given to team X as not required, 1 expired so	IF STOCK KEPT, NEW LOCATION	*QTY	*UNIT	COST	Minimum Stock Required	Maximum Stock Required
COSM 2010	E.g. Cosmopore E Dressings 20cm x 10cm	Pack of 25	4.98	Clinic store	8	singles		3 singles removed as expired	Clinic store	5	singles		1 pack	3 pack

Figure 35: Adapted 5S Inventory sheet used in the SACS implementation

8.1.24 Appendix Q: Meeting Reliability Audit

	Standard	Date						
		1/7/09	2/8/09	3/8/09	4/9/09	5/9/09	6/9/09	7/9/09
	Team Meeting No.	1	2	3	4	5	6	7
Meeting Format:								
1	Meeting started and finished on time?	✗	✗	✗	✓	✗	✗	✗
2	Chairperson identified before the start of the meeting?	✗	✗	✗	✗	✗	✗	✗
3	Meeting held next to the board?	✗	✗	✗	✗	✗	✗	✗
4	Did everyone attend?	✓	✗	✓	✓	✓	✗	✓
5	Was there a handover of information before the meeting from those who were unable to attend?	✗	✗	✗	✗	✗	✗	✗
Use of Information:								
6	Measures board up to date	✗	✗	✗	✗	✗	✗	✗
7	Meeting based on facts not vague descriptions or opinions?	✗	✗	✗	✗	✗	✗	✗
8	Were all measures covered?	✓	✓	✗	✗	✓	✓	✗
Actions:								
9	Issues that we not resolved we recorded at the bottom of the board and n the meeting minutes?	✗	✗	✗	✗	✗	✗	✗
10	Deadlines were agreed for all actions>	✗	✗	✗	✗	✗	✗	✗
Team Dynamics:								
11	Nobody interrupted anyone else?	✗	✗	✗	✗	✗	✗	✗
12	All of the team demonstrated engagement in the meeting (e.g. physical presence, positive body language, useful contributions)?	✓	✓	✗	✗	✗	✗	✓
	Meeting Total Score:	3	2	1	2	2	1	1
	Meeting %: *(Meeting Total Score ÷ 12) * 100*	25%	16.6%	8.3%	16.6%	16.6%	8.3%	8.3%
	Scorer's Initials:	N	N	N	N	N	N	N
	Chairperson's Initials:	D	SP	TJ	LC	LS	EM	GP

Figure 36: Extract from a completed Team Meeting Reliability Audit Sheet (NHSI, 2009a)

8.1.25 Appendix R: Number of applicable responses to Beginning/End of Module Assessments

Module 3 Assessment			Module 4 Assessment		
PSAG statement	Beginning (n)	End (n)	MCAS statement	Beginning (n)	End (n)
1	72	69	1	74	71
2	25	23	2	74	71
3	72	69	3	74	71
4	72	69	4	74	71
5	72	69	5	74	71
6	72	69	6	74	71
7	72	69	7	54	51
8	N/A	67	8	72	69
9	N/A	69	9	73	70
10	N/A	67	10	74	71
			11	N/A	71

Table 21: Applicable responses to Beginning/End of Module 3 and 4 Assessments

8.1.26 Appendix S: PSAG Materials

Productive Community Services
Releasing Time to Care™

NHS Institute for Innovation and Improvement

Patient Status at a Glance: Interruptions Audit Sheet
Number of interruptions / discussions during a working day

Name:		Total no. work hours recording info:	
Service:		Total time spent in office:	
Time started:		Total time spent outside office:	
Time finished:		Date:	

Please record the number of times that someone asks you about something. It may or may not be patient related.

It can be anything that stops / delays you from doing your immediate work e.g.

• Phone call in the office. • A query about anything. • A discussion about one of your patients even if you planned to discuss with them at some stage that day.	• Mobile phone call. • A question from a student or a member of staff

Please also mark the times you discuss a patient with someone else in the team by marking the entry with a *

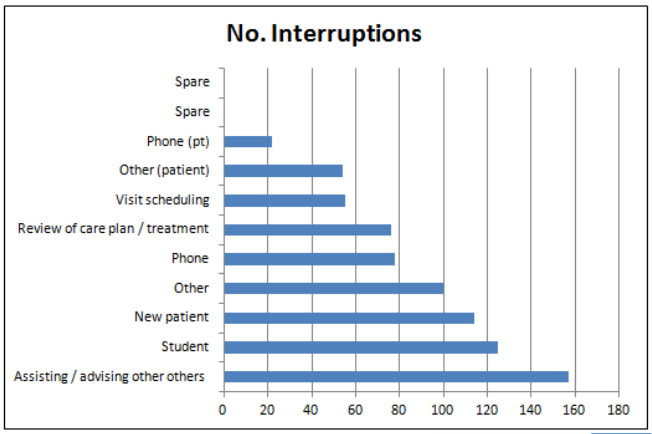
Patient Related			Non Patient Related		
Who with	What about	Time length (mins)	Who with	What about	Time length (mins)
OT	*Discharge plans for pt*	*5*	*TI*	*Info on Saturday working*	*5*
Relative	*Patient*	*10*	*Clerical*	*Location of case notes*	*5*
*OT**	*Asked about pt plans*	*5*			

Figure 37: Extract from the Interruptions Audit (NHSI, 2009e)

Productive Community Services
Releasing Time to Care™

BAR CHART TOOL

Interruption Type	No. Interruptions
Assisting / advising other others	157
Student	125
New patient	114
Other	100
Phone	78
Review of care plan / treatment	76
Visit scheduling	55
Other (patient)	54
Phone (pt)	22
Spare	
Spare	



Interruptions: Breakdown of causes

NHS Institute for Innovation and Improvement

Figure 38: PCS Bar Chart Tool V3 for 'Interruptions Audit' Data (NHSI, 2009e)

8.1.27 Appendix T: MCAS Materials

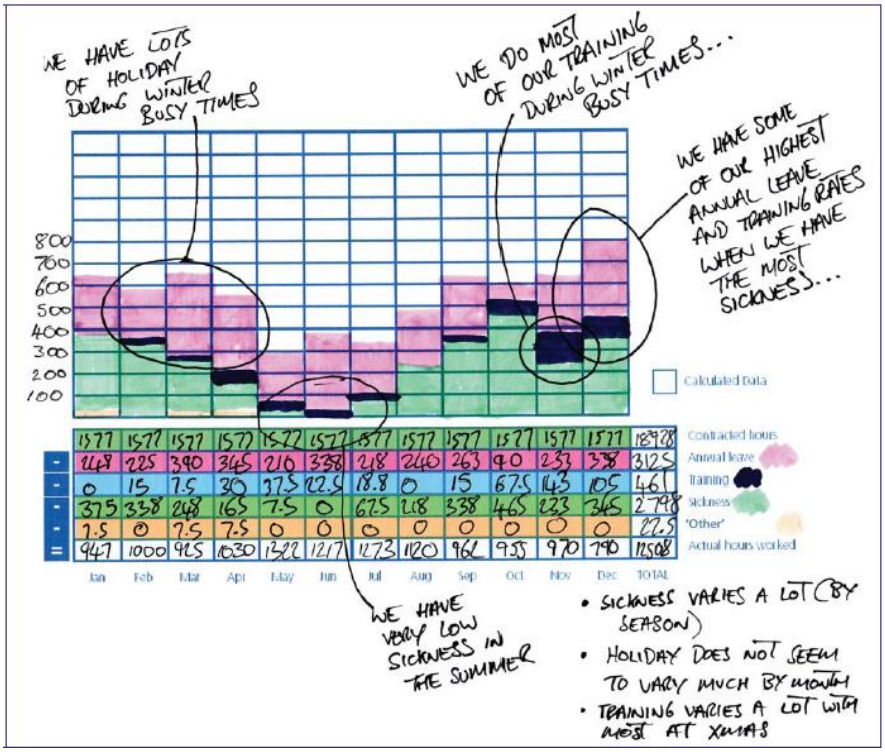


Figure 39: Example of a completed 'Absence Hours Chart' (NHSI, 2010c, p. 35)

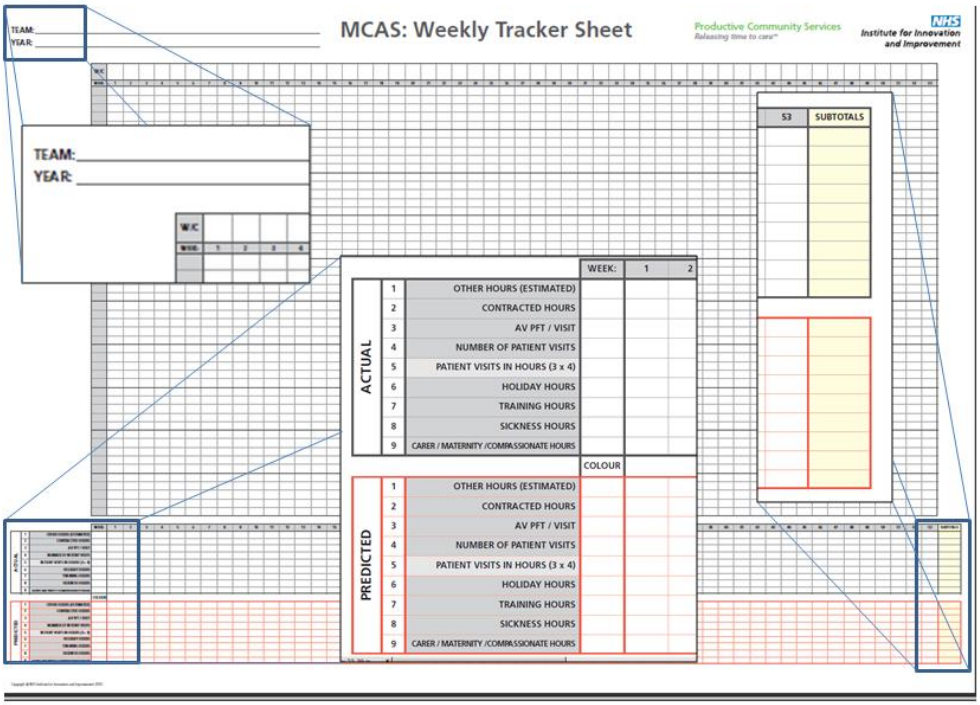


Figure 40: MCAS 'Weekly Tracker' Sheet (original in NHSI, 2009b)

8.1.28 Appendix T: MCAS Materials (cont.)

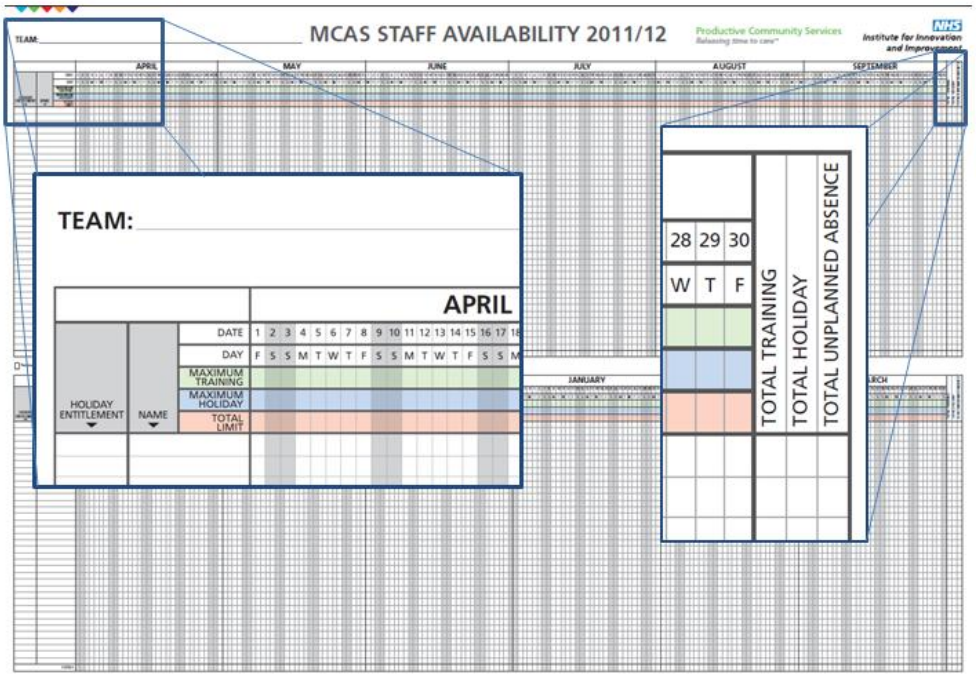


Figure 41: MCAS 'Staff Availability Planner' (original in NHSI, 2009b)

8.1.29 Appendix U: Adapted MCAS Materials for SACS Implementation

Workload Analysis

Service:	[Service]
Name:	[Staff Name]
Job Title:	[Staff Job Title]
Band:	[Agenda for Change Band]

Measurement One			
Date:	30/06/2011	Total time worked:	465 mins

Total Time Spent (minutes)				
F2F	Non F2F with Patient	Travel	Admin	Other (please specify)
345	20	40	60	

Measurement Two			
Date:	01/07/2011	Total time worked:	510

Total Time Spent (minutes)				
F2F	Non F2F with Patient	Travel	Admin	Other (please specify)
270		60	120	60

Figure 42: SACS Implementation 'Workload Analysis' data collection sheet
NB. Measurement One represents Day 1, Measurement Two represents Day 2

Managing Caseload And Staffing (Module 4)
Workload Allocation Processes

Service:
Date:

a) Workload Allocation Process BEFORE changes:

b) How can this process be improved/more standardised?

c) Has the service decided to make any changes?(Yes or No)

d) If Yes, what changes were made?

Figure 43: SACS Prompt sheet questions to capture work allocation process qualitative data

Managing Caseload And Staffing (Module 4)
STAFF LEAVE – DOCUMENTED GOLDEN RULES

Service:
Date:

a) Any DOCUMENTED Golden Rules BEFORE changes:

e) DOCUMENTED Golden Rules AFTER changes:

Figure 44: SACS Data collection fields used for Golden Rules Template

8.1.30 Appendix V: Workload Allocation Processes

	Workload Allocation process	
Service	Before	After
District Nursing [Area E]	Patient names put in diary and caseload planner and allocated on daily basis	Use monthly planner on SystmOne - Caseload planner disposed of in November 2011 and working towards no work diary
District Nursing [Area G]	Workload is allocated daily by a staff member using SystmOne Staff member allocated every afternoon to check tasks on SystmOne that have been sent from [Area F] base where there is a single point of access for referrals to the Area F/Area E team Staff member allocating will only have a list of patients for the morning in order to do this duty Visits allocated to individual staff members using monthly planner and each individual staff list printed off Workload allocated according to priority of patient/staff skills	Same as 'Before' but with use of priority guidelines
Wheelchair Services	Referral in, data entered on SystmOne and wheelchair software system within 24 hours This goes to service manager for triage, paper copy Service manager tasked to therapist/administrator/technician Once with technician that technician arranges initial appointment. The same with the therapist. Or if it goes admin they order a chair which Lynn would specify and they will raise necessary paperwork, or if it's for a drop-in appointment they will send out necessary paperwork	Same as 'Before' but using SystmOne
CareCall	No written process of allocating workload	The following written process formalised in staff members' 'Work Procedure' document: It is the responsibility of the Deputy Telecare Manager to co-ordinate and allocate the daily workload to the CareCall Team in a way that maximises available resources. The workload is organised as much as possible geographically, according to postcode and also using a route planner to ascertain where they are and plan the best order of work according to the route. This is to ensure that mileage is minimised. The Deputy Telecare Manager will book referrals with the customer and enter them in the main diary in accordance with the staffing rota to ensure there are sufficient staff on duty to undertake the number of installations booked on that day. Each staff member will have a maximum of four installations booked (if in Area F district) or three if they are travelling a distance e.g. The ....Peninsula Other work such as non-urgent technical visits, unit collections etc will be slotted in according to where they are located and allocated to the staff member that will be travelling closest to the proposed visit
Community Sexual Health	Hard copy diaries	New service workload planner designed by service
Admission Avoidance	Caseload for each site displayed on a board at each site but only displays their area. Caseloads of other areas only known about by word of mouth	Caseloads now viewable by all staff as a whole caseload and also as separate caseloads for each geographical area on SystmOne

Table 22: Workload allocation processes for teams that made changes

8.1.31 Appendix W: Literature Search on “Productive Community Services”

29 records identified by Literature Search on “Productive Community Services”

Title	Author	Reference or URL	Report type
The burden of bureaucracy: Form-filling is important yet time-consuming, so it is vital to be efficient	(Lomas, 2012)	See References	Anecdotal Report on PCS
Simple staff-led change can revolutionize community services	(Manning, 2009)	See References	Anecdotal Report on PCS
Working toward improving quality and efficiency in school nursing	(Manning, 2011b)	See References	Anecdotal Report on PCS
Productive Community Services	(Health Services Management Centre Newsletter, 2008)	http://www.birmingham.ac.uk/Documents/college-social-sciences/social-policy/HSMC/publications/Newsletters /Volume-15-No-1.pdf	Announcing PCS is coming soon
A positive frenzy in school nursing	(Voogd, 2011)	See References	Editor's introduction letters referring to another report on PCS
Implementing productive community services modules	(Wright et al., 2012)	See References	Experiential report on PCS
How can we build skills to transform the healthcare system?	(Bevan, 2010)	See References	Lists PCS as one of the Productive Series programmes
Discharge planning	(Lawton, 2012)	See References	Lists PCS as one of the Productive Series programmes
East Cheshire Trust Board: Agenda and Minutes of a meeting of the Trust Board held Thursday 23rd February 2012	(East Cheshire NHS Trust, 2012)	http://www.macclesfieldhealth.co.uk/Downloads /Trust%20Board/Trust%20Board%20papers/Trust% 20Board%20papers%20March%202012.pdf	Organisational reports /agendas /minutes /newsletters
Change plan	(Highland Council & NHS Highland, 2012)	https://slcvo.org.uk/Downloads/ Community-Planning/Change%20Plan%20%20May %202012%20v9.pdf	Organisational reports /agendas /minutes /newsletters
Patient Safety and quality matters	(Centre for Healthcare Improvement, 2011)	See References	Organisational reports /agendas /minutes /newsletters
Shadow Board Meeting Agenda	(Torbay Care Trust, 2012)	http://www.tsdhc.nhs.uk/aboutus/make_decisions /board/board_papers/Documents/Board%20Papers% 202012/Feb%20Board%20Papers.pdf	Organisational reports /agendas /minutes /newsletters
Keep Watch over our community hospital beds	(Tucker, 2012)	http://www.visitthornhill.co.uk/wp-content/uploads/2012/08/HTReport.pdf	Organisational reports /agendas /minutes /newsletters
Improving NHS productivity: More with the same not more of the same	(Appleby et al., 2010)	See References	Study about another topic but refers to PCS
Made to measure? Assessing feasibility of quality indicators for district nursing	(Horrocks et al., 2012)	See References	Study about another topic but refers to PCS
Shaping PCT Provider Services: The future for community health	(Imison, 2009)	See References	Study about another topic but refers to PCS
The NHS payment system: evolving policy and emerging evidence	(Marshall et al., 2014)	See References	Study about another topic but refers to PCS
Supporting productivity in the NHS in England	(Crump, 2009)	http://search.informit.com.au/documentSummary ;dn=456117485043498;res=IELAPA	Announcing PCS is coming soon
Releasing time to care - Sally Eason explains the concept behind the Productive Community Services programme	(Eason, 2008)	See References	Announcing PCS is coming soon
College raises concerns over community care plans	(Gillen and Lipley, 2013a)	See References	PCS is referenced in list of recommendations
New Service model aims to improve quality of care	(Gillen and Lipley, 2013b)	See References	PCS is referenced in list of recommendations

Table 23: Literature Search on "Productive Community Services"

8.1.32 Appendix W: Literature Search (cont.)

Staff perceptions of a Productive Community Services implementation: A qualitative interview study	(Bradley and Griffin, 2015)	See References	Research Report on PCS
Clinicians in leadership: To what extent does clinical leadership influence the delivery of NHS Wirral's provider services	(Cooper, 2010)	http://chesterrep.openrepository.com/cdr/bitstream/10034/108538/8/Lisa%20Cooper.pdf	Study about another topic but refers to PCS
Controlling Public Spending: The NHS in a period of tight funding	(Featherstone & Evans, 2010)	http://www.mbsportal.bl.uk/secure/subjareas/accfinecon/policyexchange/110474nhs10.pdf	Study about another topic but refers to PCS
Using treatment pathways to improve healing of venous leg ulceration	(Gardner, 2013)	See References	Study about another topic but refers to PCS
Primary and secondary care collaboration for end of life care	(Law, 2009)	See References	Study about another topic but refers to PCS
High quality care metrics for nursing	(Maben et al., 2012)	See References	Study about another topic but refers to PCS
Improving healthcare quality at scale and pace, Lessons from the Productive ward	(National Nursing Research Unit and NHS Institute for Innovation and Improvement, 2010a)	See References	Study about another topic but refers to PCS
The productive ward: releasing time to care – Learning & impact review	(National Nursing Research Unit and NHS Institute for Innovation and Improvement, 2010b)	See References	Study about another topic but refers to PCS

Table 24: Literature Search on "Productive Community Services" (cont.)

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